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D. K. MINOR, Proprietor.] FOR NOVEMBER, 1833. [SAMUEL FLEET, Editor.

NEW PUBLICATIONS.

German Parables. By Krummacher. Peabody & Co., 18mo., pp. 216. New-York, 1833.

It is a fact that the happiness of mankind flows, in a great measure, from the influence which small matters have upon the mind. He who is not enlivened by the morning song of the feathered race—he, who is not cheered with the smiles of infant innocency—he, who is not delighted with the picture of domestic or fire-side happiness—is a stranger to the pure and unadulterated feelings that constitute all that is lovely and virtuous in the principles of human society. So he, who cannot see any beauty in, nor derive instruction from, a simple parable that illustrates nature, sees the world in its ore, and knows not of the brilliant and refined riches which it contains. German pens flow smoothly and sweetly, especially when instruction and amusement are their object.

The parables are short, and so shall be our introduction to them.

'The Blooming Vine.—Samuel, the judge of Israel, visited one day the school of the Prophets, which he had instituted at Gibea, and the advancement of the scholars in the various branches of knowledge, and in the art of vocal and instrumental music, delighted him.

'Among the disciples was a young man named Adonijah, the son of Milcha. Samuel was pleased with the youth. His complexion was dark, his countenance beautiful, and the tone of his voice strong and lovely. But his soul was full of scorn and vain presumption, because he surpassed the others in knowledge and deep meditation. He considered himself more intelligent than seven sages, and conducted himself haughtily towards his instructor, whilst his language was mingled with insult and conceit.

'The judge of Israel pitied the youth, Adonijah, for he loved him more than the others, because he was full of mental vigor and of a beautiful form. Samuel, therefore, said, the Spirit of God has chosen this boy to be a prophet in Israel; but he counteracts the decree.

'And he conducted the youth into the mountain, in a vineyard which was situated in the direction of Ramah, and behold it was the season in which the vine blossoms. Then Samuel raised his voice and said, Adonijah, what seest thou? and Adonijah answered, I see a vineyard, and it wafts over me a sweet odor from its distant flowers.

'Step hither, cried Samuel, and view the blossom of the vine. And the youth approached, viewed it, and said, It is a tender little flower, uncomely in hue and humble in form.

'Then Samuel answered, And yet it produces goodly fruit to cheer the heart of man, and to renovate his appearance, that it may be beautiful. Adonijah, thus is the noble growth of the vine, in the season of your bloom, before it brings forth the precious fruit!

'Remember the vine in your blooming youth.

'And Adonijah, the son of Milcha, cherished all the words of Samuel in his heart, and from that moment was full of a mild and gentle spirit. And it was said of Adonijah, who was universally beloved, the spirit of God has descended upon him.

'But Adonijah increased in wisdom and in beauty, and became a man like the shepherd of Tekoah, and like unto Isaiah, the son of Amos, and his name was praised throughout all Israel.'

'The Moss Rose.—The angel who takes care of the flowers, and sprinkles upon them the dew in the still night, slumbered on a spring day in the shade of a rose-bush.

'And when he awoke he said, with a smiling countenance, Most beautiful of my children, I thank thee for thy refreshing odor, and cooling shade. Could you now ask any favor, how willingly would I grant it!

'Adorn me, then, with a new charm, said the spirit of the rose-bush, in a beseeching tone.

'And the angel adorned the loveliest of flowers with simple moss.

'Sweetly it stood there in modest attire, the *moss rose*, the most beautiful of its kind.

'Lovely Lina, lay aside the splendid ornament and the glittering jewel, and listen to the instructions of maternal nature.'

'The Wheat Field.—The seed of the field was ripe. The full heads rustled in the wind, and the farmer had already gone to see whether it was time to send out the reapers. He thought of a place for his barn, and began to reckon within himself what profit the abundance of his crop would yield; for he was rich, but his heart was unsatisfied and full of worldly care.

'Then the wise instructor of the place approached him and said, The earth brings forth bread this year also in abundance. The heads are heavy, and in a short time the reaper will bind the rich sheaves. Very true, answered the farmer, we could hardly expect a more favorable harvest. The land will pay well for the sowing.

'Upon this the gentle shepherd of his people answered, and said, May the judicious son of the earth imitate the land which he ploughs. It receives but a small portion of seed and compensates richly. Man receives much, and often returns but little.

'This language touched the heart of the farmer, and he felt ashamed. For he was avaricious, and full of care about the approaching day, and only thought of gathering in his treasures.

'But he concealed his inward shame, and said to the teacher, Every one should be active in the management of his concerns, that he may gladden others. A man should work in the sweat of his brow, that he himself may bring forth every needful blessing, just as the well cultivated field yields a rich increase. Therefore nature assembles the grain on the field until the whole crop appears like a single spear.

'But to this the instructor answered, The appearance of this wheat field is, indeed, simple, and the heads are ranged one after another that many may be supplied. But the time spent in sowing is short, and the wheat grows of itself, without the assistance of man, and produces the blade and the ear, and the harvest is soon over.

'Thus the farmer can examine his field at leisure, and view the red poppy and the purple flowers, which bloom among the stems, and listen to the lark which arises out of the furrow and soars towards heaven. It is not in vain that they blossom, and that the lark soars over the uniform blade.

'They should admonish the owner of the field that it yields something else besides the dust of the land, and the spear which springs out of the earth, that in striving after the useful he should not forget the beautiful, and that he should not despise the high soil any more than the low.

'Thus spake the gentle instructor. But his language was disagreeable to the avaricious husbandman, and he listened to him with a gloomy countenance, and departed thence.

'For the good instructions of a wise man appear to the evil heart like bitter scorn, and are by no means welcome.'

'The Elder-Branch.—A hunter was wandering along over the fields with his son, and a deep brook flowed between them. The boy wished to go over to his father, but was unable, for the brook was very wide. Immediately he cut a branch from a bush, placed it in the brook, leaned fearlessly upon it, and with all his force gave a sudden spring. But behold! it was the branch of an elder-tree, and as the boy was swinging over the brook, the staff broke in the middle, he fell into deep water, a splash was heard, and the tide closed over him.

'A shepherd saw what had happened, from a distance, and raising an alarm, ran towards the brook. But the boy blew the water from him, and swam, laughing, to the shore.

'Then the shepherd said to the hunter, It appears that your son has been well instructed, but one thing you have forgotten. Why have you not taught him to examine within, before he opens his heart to confidence? Had he discovered the weak pith that was concealed, he would not have trusted the deceiving bark!

'Friend, answered the hunter, I have sharpened his eye and improved his strength, and I can now trust him to experience. Time must teach him to be suspicious. But he will persevere in the discovery, for his eye is clear, and his strength is practised.'

'The Bitter Flower.—A mother went on a spring day, with her young daughter, on the mountain. And as they proceeded, the little girl was delighted with the many flowers and plants that stood and bloomed along the way.

'But she was particularly pleased with a flower, small and tender, and of a red and beautiful hue. Mina, for this was the name of the girl, broke off the flower, and viewed it with joy, and kissed it, and smelt it, and could not say enough in its praise.

'But, notwithstanding, in a short time she became tired of it. She wished that the flower should impart greater pleasure, and placed it in her mouth to eat it.

'But what followed? Mina came running to her mother and wept, exclaiming, O, dear mother, the flower was so beautiful in form and color, and then I ate it, but now it is so bitter that it has made my mouth feel quite rough. Fie on the ugly, hateful flower! Thus spake the little girl. But the mother answered, and said, My dear child, why do you abuse the flowers? They are still as beautiful in form and color as ever, and give a pleasant odor; is that not a great deal, and enough? Surely no one eats the flowers too.'

The American Journal of Science and the Arts. Conducted by B. SILLIMAN, M. D. L. L. D.

The October number of this periodical of popular and interesting sciences contains much that is calculated to benefit every reader, who has a taste for useful reading, and is desirous of becoming acquainted with the progress of science and literature in this and other parts of the world.

We shall glean a few items. The first article that is appropriate to our pages is a "Floral Calendar of Middle Florida, during a portion of the year 1833." From this we learn that garden peas were in bloom on the 6th of January, and the thermometer at 75. Peach trees beginning to bloom Feb. 10, and raspberries to ripen April 7. The general conclusion is, that the season in Middle Florida is three months earlier than in Maine, and two months than in Philadelphia—one month difference to five degrees of latitude.

There are two articles showing the immense quantities of fossil wood buried at various depths throughout Ohio, and the vegetable origin of both anthracite and bituminous coal.

We transfer to our pages a few miscellaneous extracts:

The superficial extent of the atmosphere at its lowest surface is equal to about 200,000,000 of square miles. Its altitude, if reckoned at the uniform density of its lower surface, or in other words, according to its actual quantity, is equal to a little more than five miles. Considered, therefore, as a fluid stratum resting upon the earth, the horizontal or superficial extent of the atmosphere is to its altitude or vertical dimensions, in the proportion of near 40,000,000 to 1; which shows its relative thickness to be less than that of a sheet of paper, when compared with its surface, a fact that well deserves consideration in any physical estimate of its winds and currents.

Elevation above the level of the sea, or the general level of a country, makes a regular variation in temperature; the first 300 feet, it is supposed, cause a difference of one degree. After ascending 300 feet, we are told, the thermometer falls a degree at 295 feet, then at 277, 252, 223, and at 192 feet; so that at 1539 feet of elevation, the thermometer will fall six degrees in a general way; but 300 feet per degree is the common rule. On these principles, the limits of perpetual congelation has been theoretically calculated; it is made 15000 feet at the equator; and from that to 13000 between the tropics; and from 9000 to 4000 between latitude 40° and 59°.

Average Velocity of Winds.—From the average rate of sailing of ships during long voyages through various seas, as in the China trade, and from other data, it is estimated that the average velocity of the wind, near the surface of the ocean, is equal to eighteen miles an hour throughout the year.

Showers of frogs, fishes, &c. arise from water-spouts, or spiral eddies, [whirls,] by which small portions of the waves of the sea and ponds of water, (in a state of division,) with their contents, are forced to an elevation; and thus being transported to a distance, and there falling, produce these strange precipitations.

Volcanic ashes, when carried into the highest regions of the atmosphere, are usually wafted to the eastward. Upon an eruption of Mount Vesuvius in 1631, a shower of ashes fell upon the coast of continental Greece, and also at one hundred leagues distance towards the coast of Syria. On the eruption at St. Vincent in 1812, ashes were deposited at Barbadoes, sixty or seventy miles eastward, and also on the decks of vessels one hundred miles still farther east, while the trade wind at the surface was blowing in its usual direction. In the same year ashes fell upon the deck of a British packet bound to Brazil, when distant nearly one thousand miles from the nearest land.

Atmospheric and Oceanic Currents.—Mountains also affect climate in more ways than one. By causing the condensation of aqueous vapor they occasion copious rains. They also afford shelter from winds; and by their position modify or control the currents of the lower atmosphere, and sometimes occasion great diversities in the climate of countries and places near to each other.

The climate of the United States and Canada strongly illustrates the influence of these causes. The tropical current or trade wind, being deflected by the Mexican elevations, enters the great basin of the Mississippi, and sweeps freely over the extensive country lying east of the Rocky mountains. Here, by change of latitude, the diurnal motion of the surface becomes less than that of the superincumbent fluid, which therefore necessarily assumes the form of westerly winds, and passes back to the Atlantic, to be in due time again merged in the north-easterly trades. When this tropical current keeps sole possession of the surface, which it often does for days together, extraordinary heat prevails, extending frequently through the entire basin of the St. Lawrence, and sometimes raising the thermometer on the borders of that river, at Montreal, to 98 degrees of Fahrenheit. But in winter, when the locality of this great circuit is changed to a more southern region, and when its current is entirely displaced from the surface of the great interior plateau, by the cold winds of the interior, which come down from the Rocky mountains, or from high latitudes on a course parallel to those mountains, this region becomes subject to all the rigors of a Siberian winter.

The climate of China bears a close resemblance to that of the United States, and the continental oceanic positions of the two countries are equally analogous. Both countries are subject to the extremes of heat and cold, above most others in the same latitudes.

The character of the polar current, and the great quantities of which it brings to the north-east coast of America, is supposed to influence the climate of that coast, particularly in the spring months. At Newfoundland, which is in the latitude of Paris, late in the month of June, 1831, the bays and harbors were full of ice.

Medical Geology.—At some future day, I have no doubt, that we shall discover that there is such a science as medical geology, viz. that certain strata are, as foundation ground for human habitations, much more liable to be affected with certain causes of diseases than others, and we shall probably not only know the fact, but ascertain the cause and the remedy. The county of Norfolk has long been famous or infamous for the astonishing number of patients affected with the stone; nothing has hitherto been done to investigate the cause. The earth, I have long since been persuaded, contains within itself agents destined to affect future changes of the solid surface, and also of the atmosphere. The pestilence and earthquake which reigned together, for seventy years during the reign of Justinian, and depopulated the fairest portion of the civilized world—were, doubtless, the result of certain subterranean laws, which regulate its internal economy—laws known only to its Creator.

The following article will, we trust, be read with interest, by those who give their attention to the honey-making insect:

A Parasite of the Honey Bee (Apis mellifica.)—For a few years past, many of those people, in this vicinity, who have apiaries, have found that in the month of April, May, and June, an unusual mortality has prevailed among their bees. This circumstance has led to a thorough investigation of the cause, by those who have felt a particular interest in the products of this valuable insect; and the result has proved that this mortality has been produced entirely by a parasite.

More than two years since, one of my neighbors suggested to me his conjectures, that there was a parasite fly that was injurious to the honey bee; since which time, we have fully ascertained the fact. I have a box now before me, containing a great number of dead bees, in which may be found the parasites, in both the pupa and the perfect state. Usually the bees become sickly, and unable to fly, when the parasites are in the larva state; but they sometimes live till the perfect insect emerges from the pupa. The larva is fixed at the inosculations of the dorsal segments of the abdomen of the bee, and is hardly discoverable by the eye, unless the abdomen be dissected. The larva is white, nearly two lines in length, and very much resembles a small worm or maggot. The pupa is nearly the size of the larva, and of a reddish brown color. The perfect insect is a non-descript, and bears very little resemblance to the [*Stylops*] or [*Xenos*] or any other insect, that has been found to be a parasite of the bee or wasp. It is of the class Diptera of Lin., is little larger than the Hessian fly, but in color and form it is very unlike that insect.

Kirby, many years since, discovered that the insect (*Stylops*) was a parasite in the black-bronze bee, (*Andrena nigroænea,*) in England, and Professor Peck afterwards found that the (*Xenos*) was a parasite in wasps, in America; but I am not aware that a parasite of the honey bee has ever been discovered till of late, and in this vicinity.

In conclusion, I would most sincerely request those who have apiaries to examine their hives during the spring and summer months, and if this parasite is discovered, to investigate the history of the insect, and if possible, to find a remedy for the injury it may produce. MARTIN FIELD.

Fayetteville, Vt. May 15, 1833.

ORIGINAL COMMUNICATIONS.

Memorandums about the Pea Crop. By W. PRINCE & SONS. [For the New-York Farmer.]

May 22 and 23, 1833. Planted all the following kinds on good ground, without manure, in rows:

June 20. Observed blossoms on the Nimble Dick, and on the Early Single Frame.

23. Blossoms on Bishop's Dwarf, (English seed).

July 8. Early Single Frame and Nimble Dick have pods fit to pick. These kinds much resemble each other.

Early Cluster and Dwarf Prolific blossoming.

August 2. Housed Nimble Dick, and thrashed them out.

7. Pulled up Botany Bay purple podded peas.

8. Pulled up Bishop's Dwarf, and put them on the fences to dry fully; they having ripened unequally, it was unsafe to house them without more airing.

13. Thrashed out Bishop's Dwarf, Botany Bay, Early Single Frame, and Lady's Finger.

16. Thrashed out Sugar Peas, Matchless Marrow, and Bergen Peas.

19. Pulled up Blue Imperial, and New Grotto Marrow, and put them on the fences—not fit to thrash.

Pulled up Spanish Dwarf, Dwarf Prolific and Early Cluster.

It appears that the Nimble Dick and Early Single Frame are the earliest of the above, and they resemble each other very much, but are supposed different varieties. They are fit for the table from twelve to fourteen days

sooner than Bishop's Dwarf, or any of the kinds I have planted, and yielded more than Bishop's in proportion as 16 to 13. The Nimble Dick had pods fit for the table in 46 days from the day of planting. I believe that by picking out the earliest pods, they might have realized the story of forty-day peas.

Of Knight's Marrow we sowed two parcels, on the same day, the one from France and the other from England, and although there was in appearance no perceptible difference, yet the crop from the French seed was *ten days sooner* than that from the English seed.

You will perceive by the above statement that Bishop's Dwarf and the Dwarf Spanish vary materially as to the periods of maturity, &c. In fact, when Bishop's Dwarf was fit for the table, the Spanish Dwarf had but just commenced expanding its blossoms. The reason that many have considered them as equally early is this: a great quantity of the peas sold last spring for the *former* were of the *latter* variety, and a number of instances in proof of this fact have fallen under our own observation. WM. PRINCE & SONS.

Linnæan Botanic Garden, Flushing,
Sept. 30, 1833.

The Works of Nature. By R. M. W. [For the New-York Farmer, and American Gardener's Magazine.]

Hæc studia adolescentem alunt, senectutem oblectant, secundas res ornant, adversis solatium et perfugium prebent: delectant domi, non impediunt foris, pernoctant nobiscum, peregrinantur, rusticantur.—TULL.

These studies improve youth, delight old age, are the ornament of prosperity and refuge of adversity; please at home, are no incumbrance abroad; lodge with us, travel with us, and retire into the country with us.

MR. FLEET,—The works of nature present perhaps the widest and most interesting subject of study to the inquiring mind. So long ago as the time of Cicero, these studies seem to have been appreciated by the more reflecting part of the community, but without the aid of those discoveries which Chemistry, Geology, and Botany, have afforded to the moderns. These discoveries must have been very limited; at the present time the man who can devote his time, and has proper instruments to aid his inquiries, can hardly be at a loss for subjects to draw his attention, and while his discoveries are pleasing to himself they are useful to mankind. R. M. W.

September 18, 1833.

Buildings for Holding Elections, for Public Meetings, and for Societies, in the City of New-York. By the EDITOR.

It has been a subject of repeated remark, and one which has excited much painful solicitude in the breast of every intelligent and good citizen, that our elections exhibit scenes of violent passions and of demoralizing acts instead of the sobriety of a well informed people approaching the polls in the performance of one of the most dear, dignified, and boasted rights of freemen. However solicitous the great majority of the people may be for the promotion and preservation of good morals as connected with the elective franchise, and however well they have guarded its purity in the enactments of law, still there is a woeful lethargy in making *provision for the attainment* of the object of their solicitude. Although the very principle of our free institutions is calculated to excite strong emotions and passions at the polls, still, as though this was not enough, they have countenanced their rulers in holding the elections at houses that not only have not been constructed *conveniences* for preservation of order, but are ill adapted for this purpose, and at which inflaming liquors are easily obtained and profusely furnished.

The excessive crowds that attended the Masonic Hall at the recent Fair of the American Institute, have renewedly impressed our citizens with the very great want of suitable buildings for the accommodation of the inhabitants at public meetings, and of societies and associations, whose objects are intimately connected, not only with the pleasure and refinement of society, but with the reputation and prosperity of our city and country. It has accordingly been suggested that a building should be erected at public expense, in some central and fashionable part of the city, that should, on the second or third floor, have a hall 200 feet in length, and from 75 to 100 wide, having an entrance from two streets. This floor, with a moveable partition in the centre, would accommodate our citizens on all public occasions. The income that would be derived from this story, and from the others, occupied by libraries, societies, and stores, would fully pay the interest of expenditures. Indeed, private individuals can be found, at a moment's notice, who would subscribe stock sufficient.

In addition to a building on some plan similar to the above, it has been suggested that there should be one of smaller dimensions, in each ward of the city, for the holding of elections and courts, and for the accommodation of local or ward meetings, and societies. The construction in the apartment of the polls should be such as to afford facilities for an unmolested deposit and reception of tickets, and not for the accommodation of a loitering and abusive crowd. In a city like this, where the elective franchise is so very greatly extended, and which is constantly receiving great accession of population, who are introduced to the polls before they become fully acquainted with the real nature and value of our institutions, such buildings would tend very much to the preservation, not only of order at the election, but of our free institutions.

Every considerable village and town in the Union should have such a building for the accommodation of their agricultural and horticultural societies, lyceums, courts, and public meetings. Their erection is intimately connected with the prosperity and influence of the useful and refined arts, and with the intelligence and happiness of the people.

Lawyers. By R. M. W. [For the New-York Farmer.]

MR. FLEET,—If your correspondent B. will reflect a moment, I think he will not be at a loss to account for the multitude of lawyers in our public councils. The study of the law is the study of human nature, and is the very foundation of society. Our law books contain every thing which is necessary to guard the rights of honest men, and bring rogues to justice. A man may be very learned, and make a good doctor, priest, or farmer, and yet be very ignorant of legislation.

The study of some of our law-books should, I think, make a part of education in all our seminaries of learning. R. M. W.

Potter, April 18, 1833.

Salubrity of the Climate of Florida, and of Tropical Countries. By H. PERRINE, M. D. [For the New-York Farmer.]

To the Editor of the Medical Journal of Sciences, Philadelphia.

DEAR SIR,—As the ship is still in the bay, I commence an additional sheet, to say that I have just read, in the May number of your Journal, your review of "Johnson on Change of Air"; and that I am highly delighted with your additions to his remarks on the climate of Italy. It is, indeed, a matter of momentous inquiry, to select the best winter retreat for our citizens, who are laboring under pulmonary disorder, and, I will add, under hepatic disease. However diversified the climate of our twenty-four existing states, the one great evil of a variable temperature is common to them all—sudden changes *cutting off* equally the corn of Maine and the cane of Louisiana, with the frosts of spring and of autumn; and *carrying off* the farmer of the north and the planter of the south, with consumption of the lungs and of the liver; and as the sufferer in either section but increases or exchanges disease in the other, he finally dies amid the great vicissitudes of the south of Europe, with the too tardy conviction, that the natural remedy of an equable temperature cannot be found in the miscalled *temperate*, but, properly, *variable* zones. I myself exchanged incipient pulmonary disorder of the bank of the northern Raritan, for actual hepatic disease on the borders of the southern Mississippi; but, thank God, I have experienced relief for both on the tropical shores of Yucatan. While you admit the wonderful equability of temperature of the mis-named torrid zone, and its consequent remedial powers for the consumptive disorders of our citizens, you still appear to retain that common belief of the general insalubrity of tropical climates, which is founded on the reports and resorts of war and trade; but as you are already divested of false impressions in behalf of southern Europe, you will as easily overcome unmerited prejudices against tropical America. The local circumstances which render certain districts sickly during the *hot* weather *beyond* the tropics, will render similar districts unhealthy during the *warm* weather *between* the tropics; but for every extra-tropical situation, which you may show me exempt from malignant fevers during our autumnal months, I will show you an inter-tropical situation exempt from malignant fevers throughout the year! When remote from noisome marshes and chilling mountains, you will be equally free from febrile and inflammatory diseases in the uniform temperature of every location on the dry shores of a tropical sea. This whole peninsula of Yucatan is proverbial for the dryness and healthiness of its soil and atmosphere. In the city itself, from which I am writing—in this very house, whose balcony almost overtops the wall washed by the sea, I should be content to pass all my remaining days, if the state were placed under our happy government, and inhabited by our intelligent people. Indeed, so delightful is this climate, that a winter in Yucatan would remind you that we read not of frost in the garden of Eden; and might incline you to look with indulgence on the sublime idolatry of the Peruvians, in worshipping the truly material God of the World!

The desire to protract a tolerable existence amid the numerous natural blessings of such a climate, with the political aud social enjoyments existing in our boundaries alone, in-

duced me to ascertain that *it does indeed* extend beyond the astronomical line, into our *own* territory, and under our *own* government —whose manifold advantages can be duly appreciated only by our citizens abroad, or by foreigners, who happily compare it to the air which covers us, unseen, unfelt, but essential to our existence. In my address "To the Intelligent Friends of the Union," I therefore briefly mentioned the very peculiar circumstance presented in the singularly uniform temperature of southern Florida for vegetable growth and animal health; and I now challenge my professional brethren in general to name any place in the world, which, in climate and position, can combine as many natural and social advantages, for a dry winter retreat to our invalids, as Cape Florida.

Very respectfully, your obedient servant,

HENRY PERRINE.

GRASS CLOTH, &c.—*Mr. Fleet:* I observe in the advertisements of the New-York Courier and Enquirer, of August 16th, under public sales, the following: 66 cases assorted bleached and brown *grass cloth*, and *fine and extra grass cloth* handkerchiefs; 150 bales and cases *Chinchu, Bamboo*, and other fancy baskets; 40 cases Suchan *Pongees*, 20 do. Cochineal and white *Pongee* handkerchief; 60 dozen fancy *cane* seat chairs. Cannot you enlighten us in your next number relative to the vegetables which furnish these materials? H. P.

FLORIDA PRODUCTIONS.—I presume you have observed that the Charleston Mercury remarks that "no doubt can longer exist that the productions of the West Indies may be profitably cultivated in the peninsula of Florida. The sloop Capital, arrived yesterday from near Cape Florida with a quantity of bananas, plantains, and limes, as a part of her cargo, being the first shipment for commercial purposes, of fruit, produced at that place. A bunch of the bananas, and of the plaintains, and a few of the limes, may be seen at this office, all remarkably fine." H. P.

CAPE FLORIDA NURSERY.—I am told that the St. Helena will suddenly start to-morrow, at 9 A. M. I fear these dilatory Mexicans will not have the hives of stingless bees ready. I want also to send you, if possible, three young plants, viz.: a true *pulque* Agave, a true *Henequen* Agave, and a true Pita plant, Bromelia or Furcræa, which you should have the greatest possible care taken of, as they give a death-blow to the veracity and intelligence of Humboldt. Should they go, exhibit them likewise at the American Institute, if they arrive in time. As I can keep my nursery under way, provided J. Dubose of Cape Florida is persevering, through Sagra at Havana; and as my fellow trustees in the T. P. Company seem to hold back for the law giving the township of land, I shall remain here till I have news of its passage. Perhaps I will have time to-night to write a short address to the Horticultural Society, which I wish you to present and explain. If they and their brethren throughout the Union would do any thing in their own way, to forward the enterprise, it would soon be completed.

H. PERRINE.

Sept. 16, midnight, 1833.

SULPHATES.—In the October number, page 290, of the Farmer, I notice some errors. The word *Jemison* is used instead of *Imison*, and the word *silver* instead of *sulphur*, in the communications of RATIO.

Potter, Oct. 11, 1833.

On the Wine of Seckel Pears. By C. S. RAFINESQUE. [For the New-York Farmer and American Gardener's Magazine.]

This American Pear is the most delicious fruit of our country; it is different in flavor from any other pear or fruit. I prefer it to the pine-apple and any other fruit, except some kinds of grapes. It begins to be extensively cultivated, and this year it has appeared in abundance in the market of Philadelphia, at the price of 20 to 50 cents the half peck.

I had long ago wished to make experiments on its vinous properties, and I now have begun a series of them, of which I shall gradually communicate the results.

Mr. Brarier, of Philadelphia, had already published his experiments on its saccharine properties in the Journal of Pharmacy. He has shown that it is the only pear that affords a real syrup and sugar candy, equal to those of the sugar cane. And as sugar is the main principle of wine, I was induced to try my experiments.

The juice of the Seckel Pear weighs 1075, water being 1000, or 7½ per cent. more than water. This is more than many grape juices, which vary from 1040 to 1100. This juice is very sweet and pleasant, but thinner than good Must, or grape juice. The color is yellowish, with a tinge of reddish. One bushel of pears gives four gallons of juice. Therefore, if the wine or perry made with it may be of a superior flavor and quality, it may be worth $1 the gallon; thus a bushel of pears will produce $4; while the same quantity produces only one gallon of syrup worth 75 cents.

Mr. Brarier believes that when this useful tree becomes very plentifully multiplied, as it bids fair to be, since the nurserymen inform me that they sell more of it than of any other whatever, or than of all the other pears put together, and can hardly propagate it fast enough—when it will be as plenty as our cider apples, he thinks it may be made useful for the purpose of syrup and sugar. But how much more so for wine, or a superior perry!

The average of a full bearing tree is four bushels—one acre will hold easily 100 such trees. Thus one acre of orchard will produce at least 400 bushels, which, at $1 per bushel, $400 annual income, whether sold in market or made into syrup, which requires some care or trouble: while it will be $800 per acre for 1600 gallons of wine or perry, at 50 cents the gallon, or $1600 if it should sell at $1 the gallon, and with less trouble than the making of syrup or sugar, which is not so easily made as maple sugar.

I have an idea that by mixing the juice of Seckel Pears and wild grapes, an improved wine can be made. In fact the Seckel juice, by an addition of Must or grape juice, will acquire the tartaric acid, without which no wine can be had, as the malic acid of apples and pears makes only cider or perry. Some tartaric acid or argol might be added; but fortunately the grapes and Seckel Pears ripen at the same time, and thus by the mixture both the proper acid and mucilage of grapes may be procured for the vinous change.

My experiments will extend to this; and I shall use the poorest of our wild grapes, such as those called chicken grapes, so as to have the worst result. Well knowing afterwards that by using the better sort of our wild grapes, Isabella, Bland, Catawba, &c., a superior result may be attained.

If it should be needful to thicken the Seckel juice so as to have a richer must, it may easily be done by boiling, reducing four gallons to three. Thus a variety of wines may be produced by these pears.

But as I am still bent upon improving our native wines, I deem that the juice of Seckel Pears, added to our native grape juice, in the proportion of one-third or one-fourth, would improve many of our wines, by imparting to them the delicate flavor of the pear, and even adding to the strength of any must which is under 1075 in weight.

Our Seckel Pears last from September to October, in Pennsylvania, New-Jersey, and New-York, and there is yet time for many farmers to take the hint, and make experiments this very year. Let them communicate the results, as I will do mine, and we shall acquire thereby a stock of knowledge for next year. This is quite a new subject and branch of industry, since the very fruit is new and only lately spread. It is truly an American fruit, deserving our attention and care. We ought to multiply it speedily and properly, by grafting with it all our worthless pears and apples. C. S. RAFINESQUE.

Philadelphia, Sept. 15th, 1833.

Excursion to Sing-Sing—Isabella Grape—Newtown Pippin. By the EDITOR.

On the 22d of September we made, in company with Dr. R. T. Underhill, of this city, a hasty visit to his farm, in the vicinity of Sing-Sing. It consists of about seventy acres, on a point of land formed by the Hudson and Croton rivers—most beautifully situated, every part of it affording a commanding prospect of the bold and varied scenery around.

There are three objects to which the Doctor devotes his principal attention—the grape, Newtown pippin, and the mulberry. In the years 1828 and 1829, he set out upwards of 2000 foreign vines, principally obtained from the late Mr. Parmentier's garden, and the Flushing nursery. In the opinion of Mr. P. and others, Dr. U.'s soil and location were most admirably adapted to the vine culture. He entered the business with much zeal and sanguine expectations. All the care and management which a judicious culture demanded were bestowed. The result of his experience has led him to dig them up, and regard them as worthless. His vineyard now consists of about 1000 vines in a bearing state, principally of the Isabella, Catawba, and Black Madeira. Decided preference is given to the first. These and the Catawba, although most of them in their third year, were well loaded with very fair fruit. Besides the above, Dr. U. has upwards of 1000 Isabellas, which will be in their bearing age next season, and 20,000 young rooted plants of the same kind, which he sells, through his agents, the Messrs. Thorburn, by the 1000 at the low price of 12½ cents each. The method of culture is to transplant them when one year old, before setting them out in the vineyard, in order to cut off the long straggling roots, and to cause a greater number near the stem. In the vineyard they are placed in rows, 8 feet apart, and 12 feet in the rows. The first season they are ploughed several times, and allowed to run on the ground without any trellis. They are thus supposed to ripen their wood better. The posts are six to eight feet above the surface of the soil, and are principally chesnut, well charred at the end, in the ground. They will last, it is supposed, twenty years. Three nails are driven in each post at proper dis-

tances, around which, for the support of the vines, a painted No. 12 iron wire is wound, and continued from post to post in the row. The price which the Isabella commands is from 6 to 15 cents per pound. When *fully ripe* Dr. U. thinks they will not suffer, as a table grape, in comparison with any that can be furnished in quantities in our markets; and for wine they are excellent. We are inclined to think, from comparison, the grapes of this farm of a superior flavor.

On between four and five acres the Doctor has 500 thrifty Newtown pippins, about 16 years old. Last year they produced 270 bushels of apples, sorted into 1st, 2d, and 3d qualities, which were sent to England, and commanded, from private customers, very full remunerating prices. He cultivates his orchard by obtaining oats and some other light crops, and by the use of plaster of Paris turns under clover. Manure is applied around the roots. It is his intention to set out this fall and next spring 13 acres more of this same apple, and to cultivate the ground so as to obtain good crops, and at the same time to improve the condition of the soil. Five acres of ground are reserved for a peach orchard, the young trees for which are to be obtained from New-Jersey, and set out this fall. We truly hope, and fully believe, the Doctor's attempt to cultivate this short lived plant, will be attended with that success which will be a satisfactory and encouraging remuneration.

In a nursery there are growing some thousands of the white mulberry, and several hundreds of the Morus multicaulis. These will be sufficiently large next season to commence the rearing of silk worms.

Among the commendatory practices which we observed was covering the naked banks and sterile declivities with yellow locust. These will both improve the appearance and enhance the value of the farm.

Independent of the many local advantages of this farm, there is a very rich and extensive farmer's mine. This is a deposit of about an acre and a half, and five or six feet deep, consisting of an earthy wash of the river, leaves, grass, and trees. This is dug up, and after being simply exposed to the air, or fermented with quick lime, is applied with good effect to the soil. Among the trees which we saw taken from under the surface of the deposit, were hemlock, none of which are found growing in the vicinity.

In conclusion, we have been advocates for the foreign vine—have considered the ill-success to ignorance of proper culture—have indulged the hope that Mr. Loubat's great exertions and expense would be crowned with full success—as yet, however, facts will not allow us to recommend any for profitable vineyard culture, but the best native grapes.

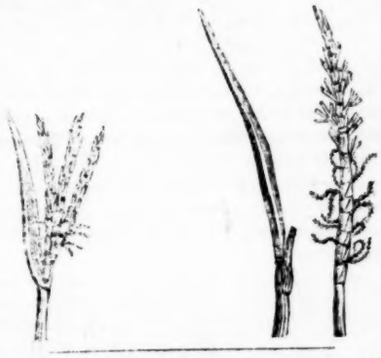
Cultivation and Drawings of Gama Grass.
By the Editor.

Within three or four years much attention has been excited respecting this grass, particularly in the Southern States. Dr. Hardeman, of Missouri, was among the first to bring it before the public as a prolific grass, and one of immense importance to the Southern section of the Union, where corn stalks or leaves are almost the only fodder for live stock. It is considered to be a native of the alluvial soils of the Southern States, but is found growing wild as far north as the banks of the Connecticut river. It succeeds well on sandy, and even barren soils.

The seeds are put in drills 18 inches apart, and the plants should be hoed sufficient to prevent the growth of weeds. The first season they spread and cover the whole surface. During the second, they are cut once a month from May or June to October or November. Being a perennial, it will probably continue to produce for several years without renewal. Those who are zealous advocates for the introduction of this grass into Southern husbandry in particular, say that it will produce 70 to 80 tons of green hay, or 20 to 30 of cured hay to the acre.

Some botanists describe four species of Tripsacum, but that called Gama Grass is supposed to be the T. monostachyon; others enumerate only three, and, in the opinion of some writers, two of these are identical. Professor Eaton describes only two, considering the T. monostachyon a variety of the T. dactyloides.

The following drawings we take from the Encyclopædia of Plants—the smaller engraving is the T. dactyloides, and the others the T. monostachyon:



Valuable Manure—New-Jersey Marl. By D. A. Ames. [For the New-York Farmer.]

Mr. Fleet,—I have, according to promise, collected a few facts upon the Jersey Marl, as a manure, and I submit them to you for insertion in the New-York Farmer.

Every person to whom I have applied for information upon this new and valuable article, speaks of it as possessing enriching qualities, truly surprising, and of more general value than any known substance at present in use for that purpose.

Its effect was accidentally brought into local notice about sixteen years ago, by a farmer, who, having a ditch dug in a meadow, had the soil scattered over the piece: the ditch or drain happened to cut a vein of this marl, and the produce of the meadow was three-fold the ensuing season, upon the spot where the marl was scattered. Important as this was, no further notice was taken of it, and being of the old stamp, averse to any thing new, he neglected to profit by his accidental good fortune. That meadow still has a better bottom where the marl was spread. After this I can find no traces of its use till about nine years since, when, by some chance, Mr. Alexander M'Gregor spread a quantity on some grass land; the effect was great, and he informed me that the first crop paid him for the expense in additional hay. That gentleman is now a warm advocate for it, and being a large owner, and a wealthy man, has caused it to be pretty extensively used for these last two years, for all kinds of crops, and he assured me last week, with entire success; yet one or two, who have pits of marl on their premises, still prefer disposing of it to improve other farms, rather than enrich their own. It is now ascertained that this marl forms a substratum in many parts of the Jersey coast, and therefore may be procured to any extent; and I am about to show you that its cheapness, durability, strength, cleanness, &c. will make it a valuable manure for the Long Island market-gardeners and farmers. If they once try it, they will no more buy the New-York manure at 50 cents the carman's load. I am assured by one respectable farmer, that he considers one load of marl equal to five of dung. It is perfectly clean, and will even destroy many weeds. This is a great desideratum in garden truck. It does not readily freeze, and will work well all weathers, always ready for use, and may be spread any time from September to March inclusive. It makes an excellent compost; upon grass land it does wonders; a thick bottom and heavy swarth of white clover is its certain produce. Potatoes, both the sweet and Irish, thrive well with it. Dung, it is known generally, flies into the tops of these, while marl scarcely alters the top, but greatly increases the size of the roots. Corn, buckwheat, cabbages, turnips, all succeed with it.

I am informed that five loads to the acre have produced a fine crop of buckwheat upon very poor land. It is used as a top dressing on grass land, and may be spread from 10 to 20 loads per acre, as late as March. One large farmer, Judge C., informed me he had used 18 loads per acre; but there is some danger of using too much, particularly with poor light land. I have heard of some that was unproductive for five years, but last year it began to recover, and it is expected the produce will eventually make up for lost time, but it is certainly better not to over-do the thing. Give a second dressing the second year rather than a surfeit at first. As far as experimental information enables us to determine, it continues its effects sufficiently nine or ten years. For corn and grain it is scattered on the top after ploughing, and well harrowed in. I cannot learn that it has been tried for peach trees, but I know one large grower who is making preparations to try it this season.

This marl is evidently a marine deposit: it is found in hollows at two or three feet below the surface, continuing downwards to sixteen. Its upper strata is of a greenish blue color, the middle more inclining to grey; and the lowest is of an ash color; this last is considered the strongest. Observe, I speak of its color when dry; and I ought further to observe that other pits are said to vary much in color and quality: therefore, before trial the quality ought to be known. This marl has the appearance of sand, each little grain having a thick coat of decomposed vegetable matter, making them adhere together in lumps occasionally.

Shells, sea-worn stones, sharks' teeth, &c. are often found amongst it. The marl that is found in some places further from the sea does not appear to be so powerful. From the pits where I selected you the sample, that accompany this, it is carted by land 40 miles, the farmer paying from 2s. 6d. to 3s. per load by the pit side. A load is twenty bushels; a bushel weighs from one hundred to one hundred and three pounds, when dry.

I am about having the marl analized, so as to ascertain exactly where it will be most useful. I will communicate to you the result with some other experiments, for your next number; and should you wish to possess a

larger sample for any of your readers to make trial with, I have prepared you some in barrels, with the price you can furnish it; for I can see no reason why it should not become an article of as much request as ashes, or plaster of paris, and will, therefore, be of as much commercial importance as coal.

D. A. AMES.

New-York, Sept. 24, 1833.

Weaving Apparatus from Mexico. By H. PERRINE, United States Consul at Campeche. To the Editor of the New-York Farmer and American Gardener's Magazine.

MR. FLEET,—*Sir:* I send you a specimen of the manufactures of Yucatan, which beats any thing and every thing of American manufacture that can be exhibited at your annual Fair. *There* you see the effects of a division of labor—*here* you see the fruit of a combination of labor. Which indicates the most ingenuity?

This sample of native manufacture is a piece of coarse cotton shirting, half woven, with the loom in which it is being formed, and the machine by which its thread was spun. The manufacturer unites in herself the various professions of cotton planter and picker, gin machinist and ginner, spindle-maker and spinner, loom-maker and weaver. Why did Robinson Crusoe wear skins, when he could thus alone have converted cotton seeds into cotton shirts?

Beginning with the spinning apparatus, observe first that spindle of hard wood, with a little cotton-thread (some kidney seed cotton is also enclosed) terminating in a compact cotton roll wound round it; next note that cup, somewhat resembling an hour-glass, made of two sections of a cocoa nut shell, and covered exteriorly with wild red beans. The lower end of that spindle dances round the bottom of that cup long after the upper end is twirled by the thumb and fingers of the spinner, which then arrest the fingers of the other hand in converting the roll into thread, and then again sets the fallen spindle into rapid motion. This is a slow process of spinning, to be sure, but then you perceive neither the length nor the breadth of the piece require much thread. Now remark the piece of cotton itself, within or without the weaving apparatus—the preposition you please. The cross stick to which one end of the warp is attached is tied to the trunk of a tree, and the cross stick at the other end is maintained at the waist of the weaver, by a string around her back. The shuttle you will notice is as long as the cloth is broad, and is enveloped in the thread which is to form the filling. Take great care not to let the various other sticks fall out, or you will be puzzled to return them, and find out their respective uses, which I leave to your unaided sagacity.

Now, supposing the whole web stretched by the weaver at a sufficient distance from the tree, seated in its shade on a stool of her own making, near a hut of her own construction, and weaving at the rate of a yard a week, you have at once a view of the manufacturer and manufactory.

In conclusion, I beg you first to exhibit this curiosity at the American Institute, and then transmit it to the Department of State, as a sample of the manufactures of Yucatan.

Very respectfully your obedient servant,

H. PERRINE.

Consulate U. S. A. CAMPECHE,
10th Sept. 1833.

SALTPETRE FOR MEAT.—*Mr. Fleet:* I believe Mr. C. S. Rafinesque is mistaken in his views of saltpetre; it is very certain that gelatin cannot be preserved in salted meat. It is very liable to putrefaction, and the effect of salt is to destroy this gelatin, otherwise the meat would spoil. Again, the saltpetre has a small tendency to preserve a part of this gelatin. Saltpetre, I believe, is composed of about 60 parts potash, 30 of nitrogen, and 10 of water of chrystalization. Now, nitrogen constitutes 78 parts of the 100 of the atmosphere, and if it was poisonous we should be in danger at every breath we drew; in fact, aqua fortis is not poisonous without it is taken in over doses; and the same may be said of most other medicines. I am fully of opinion that saltpetre, if properly used, is very beneficial in curing meat.

Yours, &c. R. M. W.

Potter, Sept. 13, 1833.

REMARKS.—We would thank Prof. Rafinesque, or R. M. W. to state what chemical charges take place in using common salt and saltpetre in curing meat, one being compounded of soda and a violent or "poisonous acid," and the other of potash and an acid a little stronger when concentrated. So far as the strength of the acids are concerned, unneutralized by a combination with their bases, we do not see why one is not as much a "deadly poison" as the other.—[ED.]

Excursion to New-Brunswick, in New-Jersey—Cultivation of the Peach Tree. By the EDITOR.

On the 25th of September we took steamboat conveyance up the Raritan river, to the comparatively ancient city of New-Brunswick. In sailing up the sound on the west of Staten Island, the principal object that would interest the agriculturist is the great quantity of salt meadows. These are a continuation of the immense Newark tract. On entering the river they become more extensive. Immense quantities of salt hay are obtained from them. Could they be effectually dyked they would rank among the most productive lands.

The appearance of the city neither implies that every thing has long remained in statu quo, nor that it has enjoyed the "far west" growth, and prosperity. The Delaware and Raritan canal terminates at the lower end of the town. It will be ready for the passage of boats in the course of the winter, or early in the spring. Rutgers' College stands in the immediate suburbs, in the centre of an inclosure of three or four acres, and commands a view of the whole city, and of a considerably extensive and interesting rural scenery. The building is of stone, and its architecture by no means forbidding and unsymmetrical. The portion of the grounds in front has been recently set out with trees. They stand in rows, and when grown large will conceal the front, while the ends and rear, which are equally public, will be almost entirely exposed. A few clumps of trees, advantageously placed in various parts of the grounds, leaving the front unconcealed, would add very much to the beauty of the place. Flowering shrubbery, interspersed between the clumps, would by no means interfere with the recreative enjoyments of the students, especially as they board in private families in the city, and frequent the college only to attend recitations and lectures. It is in accordance with the effects intended to be produced by education, that every thing about our institutions of learning should be calculated to enliven the mind, and produce pleasing associations. The faculty of this college will not, we presume, suffer in comparison with any other in the Union. The number of students is increasing. In addition to the advantages which this college enjoys, in the intelligence, sobriety, and morals of the inhabitants of Brunswick, there should be provision for manual labor, as a further protection to the morals and health of the students.

The value of farm lands in the vicinity of New-Brunswick is from twenty to fifty dollars per acre. Lime and plaster of paris are used as manures. The former is slacked and less completely burnt than quick lime, and costs about $7 to $7.50 per 100 bushels. It is brought down the Hudson in sloops. The estimation of the value of yard manure may be pretty well ascertained from the following facts. Within a comparatively few rods of the principal street is a brewery, where are kept about 100 hogs. The pens or sheds containing them are erected over the canal, into which all the manure falls, and is washed away. It is disposed of in this way on account of its offensiveness to the citizens, when allowed to accumulate—no farmer being found willing to send four or five times a week to collect it, although some of them will pay 75 cents for a heavy double horse load at the stables. Several hundred loads of manure could thus be obtained at the expense of collecting and carting. The next fact will show what this manure might produce. A person purchased a farm within a short distance of the city, at the low price of twelve dollars per acre. The soil was very much exhausted. In three or four years, by purchasing manures, and by taking pains to economise in his farm yard, he raised the value of his land to thirty dollars per acre—making a little fortune by the rise of his land, besides getting plentiful crops at the same time. There are many farms in our country susceptible of equal improvements.

In the neighborhood of New-Brunswick, and in most of southern Jersey, an increased attention has been given to the cultivation of the peach tree; and generally with very considerable profits. There have been instances of a single tree producing from twenty to thirty dollars worth of fruit in a season. They are set out in the orchard when one year old from the inoculation. The ground is manured and cultivated until the trees reach the bearing state; and it is then in many instances kept clean of weeds by annual ploughings. As far as our inquiries extended we could not learn that the trees of the New-Jersey cultivators were more free from the yellows and the depredations of the worm than those in other sections of the country, where care and attention are bestowed. They set out healthy plants of the best varieties, and cause them to have a vigorous growth. They destroy the worm by examination at the surface roots, and substitute young healthy trees for those that are sickly. When an orchard begins to decay they set out a new one. Many of those who give their attention to the growth of the peach, have nurseries, and many thousands of inoculated trees are annually sold from these nurseries to supply orders from neighboring farms and towns.

Much might be said on the cultivation of the peach; but we are inclined to believe that healthy plants kept in a vigorous growth,

and very moderately and judiciously or scientifically pruned every year, until they are of bearing size, will, if the ground is kept clean of weeds, or laid down to pasture grass, continue for several years to give out a full supply of healthy fruit buds. Before they decline much in fruitfulness and vigor, head them down moderately, and give them a new growth of wood by enriching the soil.

Latet causa, vis est notissima.—[Ovid.]
The cause is secret, but the effect is known.—[Addison.]

NEW WHEAT WITH OLD.—*Mr. Fleet:* I believe the editor of the Farmer is somewhat mistaken about the English mixing new wheat with old; at least, I never heard of it, and know no reason why it should be done, but in times of scarcity; they have often made laws that bread should be two days old before it was used. Two good reasons may be assigned for this: First, because old bread spends better than new; that is, a person will eat less of old bread than he will of new. Secondly, new bread has always been thought unwholesome, whether made of new or old wheat. R. M. W.

Potter, Sept. 13, 1833.

Tropical Fibrous Plants—Stingless Bees. By H. PERRINE, United States Consul at Campeche. [For the New-York Farmer and American Gardener's Magazine.]

I shall send you a number of leaves of the Henequen Agave (pronunciation Hane-a-kane,) of which the greater part of the fibres are exhibited. You will easily distinguish the more productive variety Sacqui (Sack-kee) from the less productive Yashqui (Yash-kee), but if at doubt, the letters S. and Y. on the respective unscraped portions will set you right. You will, doubtless, show them at the Institute, if they arrive in time, and send *pairs* to whom you think proper, especially to Charleston, S. C. and Baltimore, Md. I shall also, if possible, send three hives of stingless bees (they should be kept in hot or green houses) in the St. Helena, for yourself, Dr. Lawrence, of the Shaker Society, and Madame Parmentier. If you see Miss A. Parmentier, tell her that I had a very large quantity of shells for her, but during the cholera they were lost or stolen. I do not despair, however, of sending her some by the ship this time. I have another curiosity here, a porous earthen cup, made like a bird, without wings, the place of which is supplied by vegetable feathers. Small seeds, called Chia, are stuck upon the moist exterior surface, where they continue to grow. The seeds make a very good mucilaginous drink, which is very agreeable if joined with lemonade. I write to my agents to place from fifty to a hundred dollars in your hands to my order.

The bunch of Pita you ought to have hung out at full length, alongside the leaves of Henequen, so as to show, by contrast, the difference in fineness and length, between the Agave, and the not named Bromeliaceous plant which produces the Pita.

In my writings to you I have indiscriminately used the words Henequen and Sosquil. The fact is, the Indians give the former name to the plant, and the latter to the fibres; thus, they say, that kind of Henequen called Sacqui, gives more *sosquil* (sose-keel) than the yashqui, but the *sosquil* of the latter is finer than that of the former. As I am still passing sleepless nights, I get up and write a few lines whenever any thing occurs to me, so don't be surprized at the heterogeneous cast of my letters. I hope you have my letter of the 4th May, to the collector of New-Orleans, published in the Louisiana Advertiser, of the 24th March, with the editorial preface.

REMARKS.—The above was intended for a private letter, but we deem it of some interest, at least to our readers, and therefore lay it before them. In another letter Dr. P. says, "The hives may not arrive in time to go on board." This we find to be the case: all the other articles have arrived, and may be seen at 87 Washington street.—[ED.]

Increasing and Fermenting Manure in Winter. By the EDITOR.

It is a very common remark, and frequently illustrated, that what the farmer earns in summer is expended in winter. This arises from the unproductiveness of the labor of both the farmer and his horses during the congealing months. Among the subjects of primary attention at this season is the preparation of manure. For the want of this preparation, many farmers have little or no manure for their spring crops, particularly for corn, and for top dressing. Besides being unfit, from its coarseness, and want of fermentation, it is attended, at the most busy part of the year, with much additional labor in carting, and in applying it to the ground.

It is a generally received opinion that manure requires the heat of spring and summer to produce fermentation; but this is erroneous. Straw, leaves, and various other vegetable as well as animal substances, may be very much fermented and commuted in the winter and early spring months. In the August number of the New-York Farmer, page 225, we have given our opinion in favor of fermented manures. We shall now hastily give the opinion of others, intending to continue the subject in the succeeding numbers. We shall first give a few extracts from the Farmers' Register, detailing experiments in fermenting manure in winter. The attention of our readers is particularly requested, not to the facts, but to the methodical manner of pursuing the experiments.

EXPERIMENTS AND OBSERVATIONS ON THE FERMENTATION OF MANURES.—It has been often said that the experiments in agriculture, which result in failure and loss, if correctly reported, would be scarcely less instructive than the smaller number which prove successful and profitable. All will assent to the truth of this opinion, but few are willing to act in accordance. I propose submitting a report of this character to the readers of the Farmers' Register, in which errors, caused by ignorance and inexperience, are at least as conspicuous as correct views: and as much of value was lost as secured, by my operations. Still, I am persuaded, that even from my erroneous management and mistakes, I have received profitable lessons, and that my facts and observations may also be useful to other farmers, even if my deductions are not altogether correct.

Circumstances enabled me last winter, for the first time, to devote a considerable amount of labor to the collection and preparation of vegetable matters for manures. Having but little confidence in the truth of my opinions, as to the best management of manures, and not more in any or all of the innumerable writers on this subject, I determined to test my opinions by experiments, and to record my observations minutely for my future use. This journal of my operations, with but few alterations in form only, will constitute the present communication. Entertaining the opinion that the fermentation of coarse manures is necessary, but that great and needless loss is caused usually by that process, it was my aim so to conduct the fermentation as to avoid as much as possible the usual loss of its products.

A new site was chosen for the barn and threshing machine, the most convenient for making manure, as well as for storing the grain crops. Between the barn on one side, and the place intended for the stables and the corn cribs on the other, a space of fifty yards square was marked off for the winter cow yard. In October, 1832, the middle of this space was dug out to the depth of fifteen inches, and the earth moved in carts, and deposited on the outer twelve feet of the square, so as to form, when completed, a basin, the middle of which was two and a half feet deeper than the raised surrounding border. This border was intended to form a dry resting place for the cattle, and also to keep in the fluid parts of the manure, and to keep out rain water from the adjacent higher ground, which (it was feared) might otherwise have made the litter too wet for the comfort and health of the cattle. The soil was a sandy loam, about six inches deep, and the subsoil becoming a sandy clay about eight or ten inches from the surface, not quite close enough to keep water from sinking, but would become so by being trampled. The middle of the basin was of this subsoil, while the outer edges and the raised borders were mostly of the lighter soil. The yard was enclosed by a straight fence—and along the north side, and partly on the adjoining east and west sides, a sloping slab shelter was made to protect the cattle in bad weather.

All the cattle, except working oxen, grass beeves intended for early slaughter, and milch cows, were penned here at night from October 15th, and a slight littering was given at first of straw and leaves, (heaped in the woods the preceding winter,) and which was increased somewhat every day, by similar materials, and soon after by the stalks of the first gathered corn. As the cattle were turned, during the greater part of the day, into a clover field, they eat little or no dry food for some weeks, and during that time no more litter was given than enough to absorb the animal manure. Afterwards corn-stalks and straw were added rapidly, and leaves, as often as the other labors of the farm permitted them to be hauled. The raking of the new crop of leaves for litter was begun October 29th, on a few acres of land, covered exclusively by pines of the second growth. Pine leaves, which are considered the best for manure (and certainly are the heaviest and easiest to manage) begin to fall early in October, and by the 29th had nearly all fallen, when the leaves of deciduous forest trees were just beginning to drop. Being satisfied that every rain which falls on them afterwards extracts some of their enriching principles, I wished to have them heaped as soon as possible after falling. At any time, leaves must furnish a poor material for manure, and much more so as usually gathered after exposure to a winter's rain. My later raking, (as leisure permitted through the winter,) was in woods of mixed pine and oak, part of which had been raked over the winter before, and the balance never, so that old as well as new leaves were brought in. Besides the leaves, the materials for manure were the stalks and other forage of a crop of 560 barrels of corn, and the straw of 2000 bushels of wheat—and perhaps, 9000 pounds of clover hay. These were for the stable and other pens hereafter to be described, as well as this, on which no food was used except straw, corn-stalks, shucks, and tops. The number of cattle from October 15th to December 22d, on this large pen, was thirty-five on an average, and forty-five after that time.

Nine mules were kept in a littered, unsheltered pen, and three horses in covered stalls, in the same enclosure. The manure there made before the 12th of October had been moved out and ploughed in for wheat, and the yards and stalls were then littered again with old leaves

and straw, and (from neglect) not enough was given either for making manure, or for the comfort of the animals, until December 22d, when the litter was found to be only from four to six inches deep, compactly trodden, and wet throughout—enough so in some places for fluid to trickle from it, when dug into for examination. The horses and mules were regularly worked, and fed plentifully with corn, as well as fodder or clover hay.

A third pen was for eleven working oxen, in which they had been penned on litter, and fed with hay, or other long forage, since October 4th. They were generally kept at work.

December 24th.—After sixty hours continuance of temperature below the freezing point in the shade, (and the nights much colder,) examined the warmth of the litter in the three pens, between nine and ten o'clock, A. M.

The litter of the ox pen (which, for distinction, will be called No. 1) was 14 inches thick in the middle, and lessened to eight near the edges—compact and moist, but dryer than the mule litter. Two different places showed the following degrees of temperature.

1st place, at 6 inches deep	-	-	47°
— 10 — —	-	-	49°
— 14 — —	(the bottom)		56°
2d place, where thinner,			
— At 5 inches	-	-	47°
— 9 — —	-	-	52°

The mule pen, (No. 2,) when in the wet state above described, had, two days before, been well covered with dry leaves. In three places at the bottom of the litter and touching the earth, the temperature was 48°, 49° and 47°—and at a less depth immediately over the two first, the thermometer showed 46° and 44°.

In the farm yard, (No. 3,) owing to the small number of cattle compared to the space, the litter was not made compact as in the other pens, and several inches of the top, which had been laid on since the last rain (two weeks before) was loose and dry. The moist and more compact was ten inches thick in the middle, the deepest part of the yard, and not more than four on the outer parts.

Temperature of three different places, in compact litter, where thickest,

6 inches deep -	55°	58°	57°
10 — — -	47°	58°	55°

In thinner parts of the litter,

3 inches deep -	50°	*52°	*50½°

The last two (marked *) were under the shed on the raised border, and were most exposed to the sun from the south. In this yard, the thickest part of the litter was the warmest—and the middle of the bed was generally warmer than the bottom. In the ox pen the litter was evidently best rotted (or the texture most weakened by commencing fermentation), though this effect was very slight. The mule pen litter, which is much the richest, but is also the thinnest and wettest, had the lowest temperature. *Query:* Had not the recent cold weather lowered the warmth previously acquired from fermentation? The litter of the fattening hog pen, which was mixed with a large proportion of earth, was 42°—and the inside of a dry stack of fodder (examined for comparison) at eighteen inches from the outside, and six inches from the bottom, was at 40°. The lowest temperature of the manure being 7° higher, showed that fermentation was going on.

January 1, 1833. A heavy soaking rain, and the weather very warm for the season. As soon as the rain ceased, began to dig up and heap the manure of the ox pen, (No. 1.) The oxen had not been on it since December 22d, when they had been moved to a part of the farm yard, (No. 3.) January 2d, at nine o'clock A. M. the temperature of the air in the shade was 51°—and at the same time the manure not yet heaped (though it had been somewhat loosened by the hoes the evening before, and *possibly* fermentation might have been thereby excited,) was 65° to 71°, in different places. The heap made between 16 and 18 hours before was already throwing out warm vapor, smelling of ammonia, and within the bulk was found to be 99°. This unexpected heat and the ammoniacal smell was unexplained then; but afterwards, when using the manure, I learned from my overseer, that when he began the heap in my absence, 20 or 30 hand-barrow loads had been brought and thrown on of the rich litter of the covered horse stalls—but finding it too dry for heaping, he had stopped any further addition.

The heaping which had ceased since the preceding night, was now resumed and finished. The whole heap, thrown up lightly by forks and shovels, and not trodden, (except a little at the last to shape the top,) was raised to seven, and in part to eight feet high, the sides cut down as steep as they would stand, and the top left depressed in the middle. A cover of wet leaves (which had been laid in the adjacent road, to be trodden and absorb water, but contained no dung,) was thrown over the top to the depth of twelve inches, lying as they fell from the shovels. Over the leaves, soil was thrown about four inches deep, and then sowed thickly with oats. This cover of earth was given, first, to keep the whole surface of the manure moist, instead of its drying and remaining unchanged six or eight inches in, as when left uncovered; second, to cause all the seeds of cheat and other weeds to sprout, and by that means to perish; third, to absorb the escaping gases, if that is possible; and, fourthly, to use those gases in feeding the growth of oats, both to add to the bulk of manure, and to furnish a test or measure of the escape of rich aeriform fluids. The escape of visible vapor ceased with the adding to the heap. No fluid trickled from the heap, which showed it was not wet enough.

The litter of the other yards having been recently added to largely, was not wet enough to heap. No. 3, tried in different places, was at 60°, 61° and 62°.

I had never heaped manure before earlier than the beginning of spring weather. My object now was to have the fermentation completed with as little excess of heat as possible, and to avoid the great loss usually incurred from violent fermentation. If fermentation would go on, it seemed that cold weather would be the best to keep it moderate.

From January 1st to 4th, warmer than usual for the season, and much more so from the 4th to the 7th. Rain on the 7th, and at night the first snow that had fallen during the winter, and a change, to cold weather. Several rains and more snow by the 10th, when it became excessively cold, and continued so until the 12th. Thermometer not observed out of doors, but was at 20° between 8 and 9 o'clock A. M. on the 11th in my passage, which is between two rooms with good fires, and in one of which a fire was kept up through the night as well as day. On the 10th, the litter of mule pen (No 2) was heaped when very wet, and mixed with the litter of the covered stalls. Being absent at the time, no observation was made by the thermometer; but from the extreme coldness of the weather, I suppose that every part of the manure must have been reduced nearly to the freezing point, by exposure to the air as it was thrown on the heap. To have as little of surface as possible, and to prevent the mules treading on the manure, the heap was made to fill a round pen of six feet high, and raised above four feet still higher in the middle, or ten feet in all. No cover of earth or leaves had been laid on. When I first saw the heap on the 12th, there was no outward sign of fermentation; and, at 18 inches depth from the side, the temperature was 42°. I feared that it would not begin to ferment, without a complete opening and second heaping. Dark colored fluid had exuded from the heap, and continued to do so for some days later, forming puddles around the base.

The heap No. 1, by January 12th, had sunk to five and a half feet high. Most of this loss of height must have been caused merely by the compression of the loose litter. No vapor had been seen to escape since it was finished, whence I supposed that the cover of earth, by its pressure, had stopped the fermentation. But on striking into the heap with a grubbing hoe, warm steam came out. Before this there was no outward indication of the slighest warmth, except the outside was thawed in a few spots, and snow was but thinly sprinkled on a few other places, though the ground was covered more than an inch deep. The fermentation, however, had been sufficient to rot the manure enough for me to thrust the helve of a hoe two and a half feet in the side, without much effort. The thermometer put into holes so made in different places, and about eighteen inches from the surface, showed the following degrees of temperature:

118° on the north side, three feet from the ground, and where the mixture of stable manure was made.
100° south side, at the same height.
78° another place.
68° — — one foot from the ground.
64° — — — — —
62° deeper in the same hole.

Poles had been placed in the heap to show the temperature by drawing them out and feeling them. This had been done on the 10th, and it appeared that the heat was greatest about two feet from the outside. But few of the oats had yet come up, and those mostly on the south side, showing that the heat of the sun, more than of the manure, caused them to sprout.

On the 14th was the first thawing in the shade, and, indeed, there had been but little in the sun. Observed a barely perceptible escape of vapor from a fissure in the crust near the top of the oldest heap, (No. 1.) Began to cut away the outer part of one side of the heap, (where the greatest heat had been found,) for the purpose of examination, and to use some of the manure in an experiment. A perpendicular section being made, showed that the manure was enough rotted for use, (about half-rotted,) from the outside cover of leaves, to two or two and a half feet deeper in. This best rotted part was still very warm, and in different places showed the following degrees of temperature—118°, 110°, 110° and 100°. Some spots were *fire-fanged* or mouldy—and these were evidently caused in most cases by the mixture of stable manure, which I then first learned had been made. In some of these mouldy spots, the heat was 142° and 146°. The interior and lower part of the heap, from the earth to two a half feet high, was 116°, quite moist, and more so than the upper part, but was very little reduced by rotting, from being so much compressed. The vapor poured from all this digging as from a kettle of boiling water. By the next day all visible escape of vapor had ceased, except a barely perceptible issue at a fire-fanged spot; but it again poured out, though in less quantity, upon cutting in with a hoe, for inspection. At eighteen to twenty-four inches within the perpendicular cut, in the upper end and most rotted part, the temperature had fallen to 96°—and to 90° and 92°, at the same distance within the lower and unrotted part. In a fire-fanged spot it was 112°. Dug into the opposite (south) side of the heap, and discovered no mouldiness, except a spot so small that it would have escaped common observation. On this side, the unrotted manure came to the surface. Temperature, two or two and a half feet in, was 93° in the most rotted, and 92° in the least. The weather had become much warmer within the preceding twenty-four hours.

The observations made on this body of manure seemed to justify the following inferences: 1st, That the heap was made too high, to allow the lower part to rot speedily; 2d, That the heat and moisture remaining in that bottom proved that the fermentation, though retarded, was still going on, and in time would be effectual; 3d, That as no perceptible vapor had escaped (with the single slight exception stated before,) after the heap was finished, and while covered, there could not have been any material loss of fertilizing matter, from the process of fermentation. A paper moistened with diluted

muriatic acid was exposed this day (January 15th) to the vapor, as was also the open vial containing it, and no dense fumes were produced, which Davy tells us would indicate a loss.

On the 14th, began to heap the litter of the farm yard (No. 3,) making the heap in the middle and lowest part. The litter there was eighteen to twenty inches thick. The part which remained to form the foundation of the heap, (as was done in the other cases,) was first dug and well loosened before throwing more on. The temperature was highest in the thickest part of the bed, and in different parts of the yard was 66°, 64°, 55°, 62. To my surprise, after so much rain and snow, the litter was not saturated with water, nor indeed was every spot moist. Fearing that this would make fermentation imperfect or irregular, stopped the work, after making the heap about seven feet high, on a circular base of twenty to twenty-two feet across. Fenced it around, to prevent its being trodden by the cattle, and filled the space on the yard just cleared, with fresh litter.

Notwithstanding the change to warmer weather, this heap (No. 3.) was, on the morning of the 17th, still so much frozen on the surface generally, that on walking on it, my weight did not always break the crust of frozen litter, though the lightness of the mass caused the surface to be depressed where trodden upon. Vapor (which seemed altogether watery, from its want of odor,) was issuing from one point, the highest of the heap. The thermometer, sunk two feet in that place, showed 74°. No where else did the heap exhibit any evidence of fermentation being excited. In the side, one foot in, it was 50°.

No vapor was issuing from either of the two older heaps. No. 2 showed a slight internal warmth, (not measured,) but no vapor from pulling out a stick thrust in three feet deep. The heat had increased somewhat by the 19th, but still no vapor perceptible, until the heap was dug into for examination, when it issued, but not as from a very moderate internal heat. The thermometer, at a foot and a half below the top, showed 66° only—and on the slope, and something deeper in the body, 77°.

The oldest heap (No 1) was examined also on the 19th on the south side, and deeper in the same place tried last. The rotting had gone still lower, not more than a foot of the bottom now remaining quite unrotted. The general temperature was much lower, (which was very desirable,) except in the unrotted bottom. This part was at 74° near the junction with the more reduced body above, and 60° in a mass of wet straw, which had not even changed to a dark color. The upper and most rotted part was, in different places, 72, 80, and 94°—the last in the only visible fire-fanged spot, and where most vapor showed upon digging in the mass.

From the heap commenced in the cow-yard, (No. 3,) vapor was now issuing at most parts of the top—and on thrusting a stick down two and a half feet through the loose and open materials, where most vapor came out, the heat was found to be 128, and 106° at another place. The sloping sides slightly frozen, and at one foot and a half in, showed 50 only. The vapor, from its want of odor, seemed still to carry off little or nothing except moisture. On the 21st it still issued more abundantly from the top, and conveyed a scent of rotting vegetable matter—not ammoniacal. Temperature, 124° at one foot and a half deep. This heap was not only too dry, but was certainly of very poor materials, and its rapid and violent fermentation was quite unexpected. Was it caused by the loose and open texture of the mass, and the quantity of air consequently enclosed? Threw a cover of a foot thickness of litter (cut from the edges of the heap) over the top, to arrest and save the vapor. By thus cutting into the sides, it was found that fermentation was going on throughout. At different places, from five to seven feet within the first circumference, and from eighteen to twenty-four inches from the earth, the following various degrees of temperature were exhibited—60, 65, 85, 76, 91 and 94°. The greatest heat of the sides was generally near the bottom. On the 22d, again covered the top with a coat of cold litter from the sides, as vapor was pouring out in greater quantity than before. Where most issued, a hole was opened for the thermometer to the depth of two feet, and the heat found to be 148, the highest yet known. Another place, from which less issued, was only 76°. The weather warm then, and for several days previous.

This day the first vapor was seen to rise from the mule pen heap, (No. 2.) On January 24th, a heavy rain, which, however, did not make the litter of the farm yard wet enough; but as no better state could be expected soon, we proceeded to heap it around the first part of No. 3. The heat of this, on opening the top, was found by my overseer too hot to be borne by his hand at the depth of eighteen inches, and the top was then covered over with three inches of earth, which had not been done earlier from the fear of its preventing fermentation in so poor a mass. This served to stop the visible escape of vapor, though not to check the fermentation too much, (if at all,) as I found it on the 28th, at eighteen inches below the earth, to be 102, and in another place 90°. The heaping was stopped on the 28th, about one fourth of the yard being still left. On this, where the litter was thickest, (about twenty inches,) it was fermenting as it lay, and vapor rose from it as it was dug into for heaping. Its temperature in different places was 80, 70, 89°. The fermentation, however, was very unequal; some spots were fire-fanged, and others still dry and unchanged. The heap (built around the first work) was raised generally to six and a half or seven feet, on a circular base, twenty-two yards across. The heap was fenced in, and fresh litter thrown over the uncovered part of the yard. Earth three inches thick was thrown over only a small part of the top to try the effect. The first of the latest heaping was already smoking (on the 28th) in some places, and there the heat was found to be 90°.

30th. A steady slow rain nearly through the day. The out-spreading edges of No. 3, cut down and thrown upon the top. The weather generally warm latterly.

31st. The rain had served to lessen greatly the issuing of vapor from the heap No. 3. Proceeded to add the balance left on the yard to the same heap, raising the part now thrown up to eight feet high. The oldest central part had shown no vapor since being covered with earth (on the 15th), but, on running a pole perpendicularly through the crust, and about eighteen inches lower, the heat was found to be 154°. In a part of the later heaping, (of the 25th,) where most vapor issued, it was 105°—and where none was visible, only 66°. Slowly raining again.

February 1st. Finished heaping all the old litter to No. 3, which then occupied so large a portion of the yard, that there was not enough room left for the cattle, though they were still confined to the surrounding space. The heap was thirty yards across the base and seven and a half feet high, when first built. Earth was thrown over the greater part of the top, (where not done before,) but very irregularly, as the laborers could not see how to aim the casts from their shovels. Much increase of vapor before this operation.

2d. Found that the covering of earth was generally too thin. Though no vapor was visible, (at 9 o'clock, A. M.) the loss of effluvia was evident by the earth being thawed and moist, and the surface of the lumps being colored brownish, as if they had been soaked in the drainings from a dung heap. This was on earth dug and thrown on only twenty-four hours before. This appearance is enough to prove that more loss would take place without the covering of earth being used to arrest it. This deposit of solid matter is not found below, nor within the cover of earth, but on its new surface—and as much on the clods as on the pulverised parts; therefore it must first pass through, and then (on meeting cold air, and being condensed) is precipitated on the earth, and probably fixed there by some chemical power. Where the earth had been laid on more thickly, it was generally slightly frozen, and the escape of vapor was limited to different spots, where there was either no cover of earth, or where the materials below the cover were very coarse and open. More earth was thrown on all such places that could be reached, and the remainder that were too distant from the outside to be covered, were trodden to make the surface more close.

The yard was again well covered with litter. Two pigs were brought to the yard to get their living out of the grain left in the straw, and to mix the rich with the poor materials, by rooting about, and separating the dung.

This step was suggested by the appearance of the last heaped litter; and I believe that if such *laborers* had been employed from the beginning, the deep litter would (in time) have been sufficiently and equally rotted, without heaping, and no fire-fanging would have been produced. If such would be the case, heaping is unnecessary, except to hasten the fermentation of the manure for early use.

The stable pen heap (No. 2.) had thrown out no visible vapor, except on parts of two days, and then but little. On January 31st, the second of two very warm days, many plants sprung up on the top of this heap, from grain left from the food of horses, and the seeds of weeds in the litter. As the heat is never sufficient to kill seeds in the outer six inches of a manure heap, and as it is also generally too dry there for them to sprout, (at the usual time of heaping in the spring,) it is not surprising that so much *cheat* and *spelt* always spring up on manured land, when those weeds were plenty in the crop of wheat, from which the straw for litter had been obtained. This same warm day first brought up the oats on the flat top of No. 1, they having before sprouted only on the sloping sides, where the cover of earth was thinner.

February 3d. Vapor was still issuing generally from No. 3, and conveying enriching matter, as appeared from the scent. The earth last thrown on had not served to cover all the surface. If I had foreseen that so much earth would have been wanting, the labor of digging out the centre of the yard might have been saved, as a few years use in this way will lower it sufficiently.

9th. No escape of vapor visible for some days preceding, (at least as late as 9 o'clock, A. M.) except at one spot, which had not been covered. But many places show by the brown color, and sometimes by the moisture of the covering earth, that something is, or has been lately passing through. In warm weather the steam is not made visible by condensation, and therefore its escape is less easy to detect. The temperature of different places, one foot and a half below the top, was as follows: 112, 96, 73, 155, 98, 90, 150, 98, 113°. The last named was the temperature of the oldest central part, and the preceding number (98°) shows the heat of a part of the new heaping, which, on Feb. 2d, had been well covered with earth, and pressed close by being trampled on. The hottest places were found where most effluvia appeared to have escaped—and where least warm, there was no mark of such loss. The average temperature of the whole would have been much lower than of these numbers—probably between 90° and 100°.

Carted away for use the balance of No. 1. Interior of the bulk seemed no more rotted than it had been two weeks before, though it was still warm. The heat had entirely subsided in all parts near the surface, and in some cases, as far as two feet inward. The temperature in different places was found to be 76, 77, 88, 82, 88, and 94°—the two last being in the part least rotted. The cold part of the heap was as much reduced as I supposed desirable.

Began to carry out No. 2. This heap was still the wettest, and showed mouldiness in only a few spots. Its general temperature was low, and it was less rotted than No. 1, though the fermentation was still in progress. The hottest places found were 96 and 94°—elsewhere 80°. These measurements were made at two and a half feet within the bulk. Nearer the surface the heat became less. This heap, though much the richest, and not protected by any covering of earth, had passed through a more general fermentation, and seemed to have sustained less loss than either of the others.

March 2d. Dug into No. 3, for examination. The heat much abated, and much damage found from fire-fanging.

8th. Had been some days carting manure from No. 3, to the field intended for corn, and spreading and ploughing it in. The heap had sunk to about four feet: but much the greater part of its loss of height (as in all other cases of dunghills lightly heaped) was from the mere subsidence and compression of the materials. The upper half seemed enough reduced by fermentation, (or was in a more than half rotten state), but the lower part was not much changed. Fire-fanged places were frequent, and most so where the manure was best rotted. An empty barrel, open at both ends, had been set on the yard, and covered over by the oldest part of this heap, to try what effect would be produced by that bulk of air surrounded and enclosed by the fermenting manure. The barrel was reached this day, and the surrounding manure was found to be somewhat better rotted, and having more fire-fanged spots, than elsewhere. My thermometer having been broken, prevented any observation of temperature. In the first week of March, a large part of this heap had been moved to a distant part of the field, and there heaped again about six feet high. The earth was then too wet for the manure to be distributed over the field, and this moving and second heaping was done to lighten the future labor of carting, and also to try the effect of a second fermentation being excited. It recommenced but very slowly; vapor did not show generally over the heap until the 18th of March, when a thin sprinkling of earth was thrown over part of the top. The vapor was still visible on the 18th, when the weather was very cold.

It should have been stated that the cattle were confined generally through the day to the pen, (except when driven to water,) during the depth of winter. After the clover began to spring, they were allowed to pick a little of it every day, and about the 20th of March all were moved to another pen more convenient to their pasture. It was evident that their litter given since February 1st was too dry and too poor of itself, and too little mixed with animal matter, to be fitted for spring use by heaping.

May 4th. Carting on the corn land (just ahead of the first horse-hoeing of the young plants,) the manure drawn from No. 3, and heaped a second time. It was still quite warm, between 110° and 120°, as was supposed from the touch—and more rotten and better reduced than any of the other heaps—the lower half less rotted than the upper. Not much fire-fanging perceptible—though something of it seen in every part. The portion that has been slightly covered with earth was least rotted, but the difference was inconsiderable. Vapor still poured out where the heap was opened, and was the more easily observed as the weather was cold and damp.

No. 1, the ox pen manure made 165 mule loads.
No. 2, the stable pen — — 234 — —
No. 3, the cow pen — — 1365 — —

The last quantity includes that heaped a second time in the field, 344 loads.

From all the observations which have been detailed, (I fear at tiresome length,) and from all the errors committed, I think the following inferences may be relied on.

1. The greatest error was not making the manure of No. 3 wet enough. This deficiency might have been easily prevented by turning streams of rain water into the yard. The wetter the heap, provided it does not stand in a pool of water, the more gentle, regular, and the less wasteful, will be the fermentation.

2. The heaps in every case were made too high, and the fermentation of the lower part of the mass retarded or prevented by the compression caused by the weight of the upper part.

3. The want of sufficient moisture, instead of preventing fermentation, makes it more rapid and violent—and with sufficient access of air produces fire-fanging, which destroys much of the value of manure so affected. The richer manures (as stable litter alone) are most liable to this disaster; but the very wet rich manure, (No. 2,) heaped in cold weather, suffered but little, and much less than the very poor but dryer and more open heap, No. 3.

4. Manure will ferment in our coldest weather, and therefore we lose time by waiting for the beginning of spring to construct our heaps, and cause damage by the increased violence of fermentation.

5. We need not fear, by using the greatest quantity of vegetable matter, to make our manure too poor to ferment properly and in good time.

6. If enough water had been introduced previously, No. 3 might have been heaped by January 1st—and the second littering also before the winter was over.

7. The fermentation of all the heaps would have been more complete, and probably without farther waste, if they had been left undisturbed until just before planting corn. But this was one of the many cases in which convenience directed more than reasoning. If the carrying out had been delayed until the manures were in the best state for use, the occurrence of wet weather, and the pressure of other farm labors, might have prevented the application being made early enough for the crop of corn.

The weather through the winter was generally milder than usual, but there were three short excessively cold spells. The last of these was after the beginning of planting corn, and on the morning of March 30th the earth was too hard frozen to plough.

The effects on manures of the important and mysterious process of fermentation will never be understood until chemists shall undertake the investigation—and not in the study and laboratory altogether, but also in stables and amidst dunghills. I fear that we shall never see one make the attempt in any way—though the investigation offers and promises results that would be most honorable to the discoverer, and of incalculable value to agriculture, and indeed to the human race. Chemists neglect agricultural investigations, and seem to consider them as unworthy of scientific research. Yet, if a discovery was announced of some new metal, or new acid, found so rarely and in such small quantities, that the whole globe would never furnish a pound together, and of which no man could conceive any possible use—every chemist would feel interested in the subject, and more would be done for its investigation than agriculture has ever owed to their whole body.

Useful Plants introduced into Florida. By HENRY PERRINE, U. S. Consul at Campeche. [For the New-York Farmer.]

MR. FLEET,—As the growth of the Banana plant and Cocoa nut palm at Cape Florida proves the truth of my position, that the climate of the torrid zone extends north of the tropic of Cancer into southern Florida, I now send you a list of some of the valuable vegetables of the tropics, which I have been forwarding, notwithstanding the obstacles interposed by the cholera at Havana, New-Orleans, and Campeche:

Nutritive Roots. Jatropha manihot, 2 varieties; Maranta indica and alloni? 2 species; Dioscorea alata, sativa, and bulbifera, 3 species; Arum sagittifolium; Alstremeria edulis and latifolia, 2 species; Phaseolus tuberosus, 2 or 3 varieties.

Edible Fruits. Persea gratissima; Mangifera domestica; Anacardium occidentale; Anona squamosa and muricata; Chrysophyllum cainito and oliviforme; Mammea americana; Lucuma Bonplandii; Tamarindus occidentalis; Melicocca bijuga; Malpighia punicifolia.

Dyes. Bixa orellana; Curcuma Americana; Cactus cochinillifera.

Oils. Moringa pterigosperma; Alfonsia oleifera; Jatropha curcas.

Cortical Fibres. Hibiscus tiliaceus; Corchorus siliquosus.

Capsular do. Gossypium, 2 species; the kidney seed and nankeen cotton.

Foliaceous do. Agave sisalana (2 varieties of *Henequen;*) Furcræa fœtida? (*Pita.*)

Drinks. Agave americana (or *Pulque*); coffee and chocolate.

Odors. Vanilla aromatica; Hibiscus Abelmoschus.

Smoking. Tobacco, various varieties of Yucatan, its native country.

Timber. Piscidia erythrina; Cedrela odorata—compose Campeche vessels, &c. &c. &c. with numerous plants of less note.

So far is untrue the common belief in the general insalubrity of tropical climates, that every portion of the dry shores of a tropical sea, when remote from marshes or mountains, affords in its wonderful uniformity of temperature, a requisite for health and enjoyment which cannot be found in any part of the miscalled temperate, but properly variable zone; and, consequently, neither in the twenty-four existing United States, nor in any section of Europe. The sudden changes of the weather which injure the oats of Maine, the corn of Connecticut, the cotton of Carolina, and the cane of Louisiana, produces diseases of the breast in the northern farmer, and in the abdomen of the southern planter; and as the former with the consumption of the lungs, and the latter with consumption of the liver, but increase or exchange disease by exchanging their respective sections of the Union, they finally perish in southern Europe, in the vain search of an equable temperature, the natural remedy for the disorders of both which can only be found in the slandered torrid zone. Hence, while uniting within our borders the numerous valuable vegetables of the tropics, we have the additional gratification of forming a warm dry winter retreat for our citizens laboring under either pulmonary disorder or hepatic disease, contracted in either Boston or New-Orleans. From the nature of its climate, and the peculiarity of its position, with the form of our government, and the character of our people, southern Florida must combine more natural and political advantages for material and mental enjoyment than can be afforded by any other portion of the world. Very respectfully, your obedient servant,

H. PERRINE.

Consulate U. S. CAMPECHE,
16th Sept. 1833.

Ægrescitque medendo.—[Virgil.]
He grows sick by doctoring.

DIET.—*Mr. Fleet:* Mr. Addison, in his Spectator, Vol. I, No. 25, has given us a humorous account of a man who regulated his diet by ounces and scruples, yet was complaining. This number may be read with some advantage by the editors of the Journal of Health, and many others, who con-

tend so strenuously for regimen. I would by no means be understood to say that a proper attention to regimen and diet should not be observed on proper occasions, but I think it may be carried to extremes and do as much hurt as good. I believe that nature will dictate what is proper in most cases for the preservation of health, better than any rules that can be laid down by the faculty.

DUBIO.

September 13, 1833.

Quantity of Indian Corn to the Acre. By OBSERVER. [For the New-York Farmer.]

MR. EDITOR,—Mr. Colman's communication on the quantity of Indian corn per acre, published in the New-York Farmer for July, page 194, was as unsatisfactory to me as to your correspondent E., who asks if it were shelled or not; but Mr. Colman's subsequent letter, page 291 of the Farmer, for October, is so explicit and so copious in extracts, showing well authenticated and astounding products per acre, that my first desire is to offer my best thanks to him for these his valuable services to the public, and for his very gentlemanly condescension in unmasking his friend Earl Stimpson, Esq. at the unceremonious call of E. (vide letter signed Indian, page 292 of the Farmer for October.)

My next business is to solicit a statement of Earl Stimpson's rotation of crops and manure, for although I can imagine it possible, that a farmer in a particular season, on some one acre naturally rich or highly manured, may produce 170 bushels of corn, I would rather secure the average growth of 100 bushels per acre, for ten successive years, throughout my farm of many acres; and, therefore, wish to ascertain if the sod is retained in grass till it evinces poverty, or on the contrary, maintains a rich growth until broken up; and further, if the manure he uses is the produce of cattle or horses, highly fed, or of store cattle only; and whether he is particular to make it into a compost with mould in the fall, for his corn crop.

I am, yours, &c. OBSERVER.

Union, N. J. Oct. 28, 1833.

NEW-YORK FARMER.

NEW-YORK, NOVEMBER 1, 1833.

"So far as I can judge from my own experience and observation upon others, I say, unhesitatingly, that *three hours* of bodily exercise daily is the *minimum* quantity which can meet the demand of the human system, especially if the exercise be taken at different intervals."—[PROFESSOR HITCHCOCK.]

"If two or three hours ought to be spent in healthful exercise, why not employ those hours daily in the *pleasant* occupation of horticulture, agriculture, or mechanics."—[REV. DR. ALEXANDER.]

AGRICULTURAL OR MANUAL LABOR SCHOOLS.—In this number of the Farmer our readers will find several articles of intelligence on this subject—sufficient, amply sufficient, we trust, to convince them that they are becoming as popular as they are eminently useful. Indeed, a most gratifying, and we may say glorious, career is before the community—literature, science, and health, are to progress in beautiful sisterhood.

At the recent Agricultural Fair of Pawtuxet, R. I., several premiums were awarded for superior crops to the students of the manual labor school founded by the Society. Although the school commenced late in the spring, yet the number of students amounts to 92; and the crops exceeded expectations.

It will thus be seen that the design of founding a New-York State Agricultural School, as is set forth in the Petition to the Legislature, which will be found at page 350, is by no means Utopean; but is founded on that principle which connects useful science with useful callings; and as such we hope every citizen who loves his country, and is proud of his state, will give his countenance to the measure.

AGRICULTURAL FAIR.—We published, in former numbers of the Farmer and Plough-boy, a notice that an Agricultural Exhibition and Sale would take place on the fourth Thursday of October last. This was in anticipation that an Agricultural Society would have been formed, and have complied with the resolution of the State Society. At the recent organization of the County Society, we urged the importance of having one this fall, but in the opinion of the meeting it was thought that adequate preparations and arrangements could not be made. There will, we trust, be a Fair in April next.

Since the meeting several gentlemen have called at our office, and expressed their regret of the omission of the Fair, as they had expected to dispose of their stock on the occasion.

HARVEST IN EUROPE.—In almost every section of Europe the past season has been one of plentiful crops. Comparative peace and plenty are universally enjoyed. The quiet state of some of the European nations, and, indeed, we may say of all that quarter of the globe, may, in a very considerable degree, be attributed to the abundance of the crops: allaying the swelling and angry emotions which scarcity would excite into open violence.

The vintage in France has been very abundant, causing a reduction in the price of wines of 25 per cent.

WHEATLAND AGRICULTURAL FAIR.—On the 12th of October, the Agricultural Society of Wheatland, Monroe county, held an annual Fair, when an address was delivered by Mr. N. Goodsell. From Goodsell's Genesee Farmer, we learn that the choice breeds of cattle and sheep exhibited did honor to the Society and exhibitors, and that the wheat fully sustained the reputation of the town for that staple article.

NEW KIND OF WHEAT.—Mr. Joseph Tracy, of Windsor, and Editor of the Vermont Chronicle, sent, in September last, a bushel of wheat to the Editor of the New-England Farmer. It weighs sixty-three pounds to the bushel, and produces forty-two to forty-four of the first quality of flour,—ripens a few days earlier than other wheat, produces less straw, and is less liable to injury from the fly. It was at first brought from Virginia.

OLD WHEEL AND LONG THREAD.—Anne McQuillin, as stated some years ago by Dr. Dickson in the Parthenon, spun on a wheel which was made before the marriage of her grand-mother, one hundred and five hanks to the pound, the thread of which was so fine that it was in length two hundred and fourteen miles six furlongs and seven poles.

HOT-BED FENCES.—In England it is common to have fences of the stalks of bull-rushes and other similar plants to protect their hot-beds from cold chilling winds. A gardener of our acquaintance, residing on Long Island, makes them of the stalks of broom corn. Posts about 6 feet apart are put in the ground, and three lasts or strips of boards are nailed on, between which the stalks are perpendicularly placed. A fence from 5 to 7 feet high is thus made around the hot-beds.

SALT TO DESTROY TREES.—Among the most useful substances in promoting health in the animal and vegetable kingdoms is salt. Like thousands of other substances, it destroys, when used in excess, those very things which it benefits when applied in moderate and suitable quantities. In excess it is destructive of vegetation, but mixed in due proportions with the soil it greatly promotes the growth and health of plants. A writer in the Genesee Farmer recommends to concave the stump of a tree, which is difficult to kill, and pour on it very strong brine.

POTATOES MANURED WITH PINE BOUGHS.—A farmer in New-Jersey relates to us the following experiment: Having a large number of young pine trees growing near his potatoe grounds, he gathered a sufficient quantity of the boughs to form a considerable covering to a row of potatoes which he was planting in drills. In the drill on one side of this he used lime for manure, and in the one on the other he put in marl. They were all covered with earth in the same manner, and received the same culture. On digging them, those that were manured with the pine were twice as large as the others, and double in quantity.

Planters in the Southern States estimate pine leaves, gathered early, as among the best of manures.

COTTON CROP.—Dates from Beaufort, S. C., of October 17th, represent the Sea Island cotton crop equal only to half of that of last year.

The following is an account of a basket of very beautiful large and firm cocoons exhibited at the Fair of the American Institute of New-York, on the 15th of October last:

Cocoons from Worms fed on the Chinese Mulberry—Morus Multicaulis.

The 11th of May, 1833, the worms of the first brood were hatched; they were fed with the Morus Multicaulis, or Chinese Mulberry; the litters were changed every second day. As the nights were very cold, the worms did not grow so rapidly as they would otherwise have done, and they required thirty-one days to complete their transient existence.

The egg which produced the worms of the second brood were from those of the former crop.

The 8th of July the second brood of worms hatched; they did not receive any more attention than those of the preceding brood, but the season being more congenial to them, they commenced spinning on the 4th of August.

A *third* brood might have been readily reared, if it had not occurred that for some time the moths were observed to have pierced their silken cells, and to have escaped: still no butterflies were to be seen; one morning, however, the mystery was solved; on entering the room in which they were kept, a cat was discovered in the act of eating an unfortunate moth, and thus it appeared that Master Grimalkin, who would never have been suspected, was actually the cause of the disappearance of the moths; and, consequently, no eggs could be obtained with which to rear a *third* brood.

The cocoons reared from the Chinese Mulberry have always been of a perfect snowy whiteness, and have possessed all the requisites of a good cocoon.

PATRONAGE.—We take the liberty of publishing the annexed letter, recently received from one of our most intelligent and respectable citizens, who has been long a subscriber to the Farmer. It is a token of approbation of our efforts to make the Farmer acceptable and useful to its patrons, and of so much *importance* to our success in continuing the work in its present style, that we cannot deny ourselves the pleasure of laying it before our readers, in the hope that they, or at least some of them, will consider it an example well worthy of imitation; and that others—aye, *many* others—who are not *now*, soon will become equally PATRONS of the NEW-YORK FARMER AND AMERICAN GARDENERS' MAGAZINE.

HUDSON SQUARE, Oct., 14, 1833.

DEAR SIR—I have for many years been a subscriber to the "FARMER," and in many ways have endeavored to promote a work which, to me, appeared worthy of a far extended patronage.

With regret have I this day read on the cover of your October number that you "find it difficult to meet the current expenses of the work." Permit me to offer you grateful thanks for the amusement your work has afforded me, and more especially for the many useful facts accumulated on its pages, ever adapted for ready application, by every man in every station of of life.

When you cause the volume of the present year to be bound, please send to me two copies—the cost, when ascertained, is ready for you whenever called for.

Respectfully yours,
J—— D——.

To Mr. D. K. Minor, 35 Wall st.

While upon this subject it may not be amiss to observe that *this*, and *one more* number, will complete the *present*, or 6th volume of the work. With the *December* number will be furnished a title page and copious index to the volume. In the *January*, or first, number of the *ensuing* volume will be found some additional evidence of our desire and intention to render the work worthy of the best wishes and liberal patronage of an intelligent community. It is our intention to give, to those who shall continue the work another year, with the *January number*, or first number of the 7th volume, an appropriate lithographic vignette. We also intend to make other improvements in the work as soon as its patronage will warrant the expense. May we not, therefore, anticipate an early remittance of these accounts *now* due, as well as for the *ensuing* volume?

N. B.—As soon as the December number shall be issued, *one hundred* sets will be put up in a neat, but cheap, binding—when the above very acceptable order (and we trust many others of a similar character) will be promptly attended to.

NEW-YORK COUNTY AGRICULTURAL SOCIETY—At a meeting on the 3d of October, called for the purpose of organizing a County Agricultural Society, Charles Henry Hall, Esq. was called to the chair, Mr. Benjamin Poore chosen secretary. The following letter was then read from the Mayor of the City:

Mr. Lee regrets that the business of his office at this hour prevents his meeting with the friends of agriculture. He respectfully suggests that a County Society should be presently formed, to co-operate with a Committee of the Common Council, of which Alderman Hopkins is Chairman, which Committee has preparations already in a state of forwardness, for the accommodation of the proposed fair of the State Society, for the fourth Thursday in October.

Mayor's Office, 12 o'clock,

Thursday, Oct. 3d, 1833.

A committee was appointed to draw up a Constitution, and nominate suitable persons as officers of the Society. The meeting then adjourned to the following day.

Friday, Oct. 4th, 1833.

On the chair being taken this day, the following Constitution was submitted and unanimously adopted:

CONSTITUTION.

This association shall be styled the New-York County Agricultural Society, the objects of which shall be, to improve the condition of agriculture and the rural arts.

Article 1. This society shall consist of all those persons, who, at the time of signing this constitution, and annually thereafter, shall contribute to the funds of the Society. The payment of twenty-five dollars more shall constitute a life membership, exempt from annual contributions.

Article 2. The officers of this society shall consist of a President, three Vice-Presidents, Recording Secretary, a Corresponding Secretary, a Treasurer, and an Executive Committee, consisting of the above named officers, and fifteen others, elected at the same time, and in the same manner; five of which committee shall constitute a quorum.

Article 3. The Secretaries shall perform all those duties usually incumbent on them respectively, and best calculated to promote the objects of the society. The Treasurer shall keep the funds of the Society, and disburse them on the order of the President or a Vice-President, countersigned by one of the Secretaries; and shall make a report of the receipts and expenditures, at the annual meeting. The executive Committee shall superintend and direct all the affairs of the Society.

Article 4. There shall be an annual meeting the last Thursday of October, in Harlæm, when the officers shall be elected by a plurality of votes, and by ballot. There shall be two semi-annual Exhibitions and Sales of Live Stock, Agricultural Implements, and the productions of the Farm and Household. These Exhibitions shall be at the time of the Annual Meeting, and on the Second Thursday of April. At the former regular and discretionary premiums shall be given; and at the latter only discretionary premiums. Extra meetings may be convoked by the Executive Committee.

Article 5. This Constitution may be amended by a vote of two-thirds of the members attending the annual meeting.

On motion it was

Resolved, That it is, owing to the lateness of the season, inexpedient to hold the Fair on the last Thursday of October of this year, as recommended by the State Society; but that timely arrangements be made for the exhibitions and sales contemplated in the constitution.

Resolved, That the Petition of the New York State Agricultural Society to the Legislature, for funds for an Experimental Farm and School, be circulated among the members of the Society, and citizens generally, for signature.

The following list embraces the officers elected to serve until the annual meeting in October, 1834,

CHARLES HENRY HALL, President.

GIDEON LEE, J. M. BRADHURST, ELISHA W. KING, } Vice-President.

A. W. DODGE, Recording Secretary.

S. FLEET, Corresponding Secretary.

ABRAHAM BELL, Treasurer.

SAML. SWARTOUT, ISAAC L. VARIAN, BENJ. L. BENSON, R. T. UNDERHILL, BENJ. POORE, GEORGE NIXON, ISRAEL DEAN, ANDREW M'GOWAN, WM. W. HOLLY, THOS. ADDIS EMMET, WM. R. SMITH, G. HOPKINS, DAVID AUSTIN, A. B. WILLIAMS, D. P. INGRAHAM, } Executive Committtee.

EXHIBITION OF STOCK.—Our friend A. W. has sent us the following, which we suppose is part of the report of the Berkshire Agricultural Society. The spirit that prompts to send stock for exhibition to neighboring fairs is very commendable and patriotic.

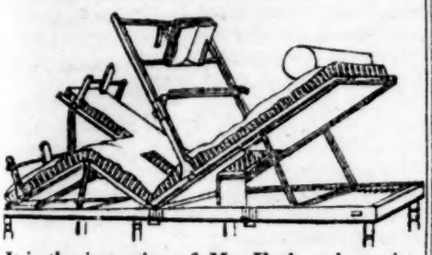
Even the citizens of our sister states have done us the honor, by gratuitous exhibitions of stock, to encourage our exertions, and to advance the objects of the society and the interests of the country, The committee beg leave to name Caleb N. Bement, Esq. of Albany, as deserving the thanks of the society for his interesting exhibition of two imported cows and a bull, of the short horn or Durham breed. They are also much indebted to Mr. Thomas Dunn, of Albany, for his exhibition of a buck and lamb of the New Leicester or Bakewell breed. It is presumed that this breed of sheep is entirely new to most of the farmers of the country, and it is well worthy of their consideration, whether their flocks may not be greatly improved by them, particularly as it regards the quantity of the fleece and the size of the sheep. Mr. Bates, of Vermont, exhibited to the society a fine horse, which was much admired for his beauty and excellence. The committee noticed with great pleasure several fine animals from the excellent stock of cattle belonging to the Hon. Henry W. Dwight, to whose patriotic and spirited exertions the agricultural community is largely indebted for a steady and progressive improvement of stock in the county.

MRS. PARMENTIER'S GARDEN.—Mrs. P. has sold her garden, consisting of twenty-three acres, for $57,000—a very great advance on the original price, about eight years ago. The grounds will bedivided into building lots. Mrs. P. will remain until May next, but dispose of the greater part of the stock this fall.

PROCESS OF CHEESE-MAKING.—*Mr. Editor:* There is a misprint in the article on cheese-making, in your New-York Farmer for October, page 290, which I am very desirous to have conspicuously corrected in your next number, as the proscription recommended would be fatal to the cheese at the beginning. It would unavoidably be dry and hard. It reads, "The milk in warm weather is not considerably below the warmth of milk directly from the cow." Whereas, it should read—The milk in warm weather is "set" (i. e. the rennet applied) considerably below the warmth of milk directly from the cow. Yours, &c. EPHRAIM PERKINS.

Trenton, Oct. 15, 1833.

Invalid Bed.—There are many contrivances under this name, but the one represented beneath seems the best mechanical arrangement for the purpose.



It is the invention of Mr. Earl, and consists of a strong frame supporting a jointed bedstead. The situation of the pillow points out the part of the apparatus which supports the upper portion of the body. The mattress should be either of horse-hair or wool, and nailed round its edges to the upper division of the moveable frame.

Another form of bed for an invalid has been suggested by Dr. Arnott. (See page 37, Vol. II.) It consists of a trough containing water, and covered with a cloth composed of cotton coated with Indian rubber. This forms one of the softest and most flexible beds that has ever been devised.—[Partington.]

Sixth Annual Fair of the American Institute of New-York, Oct. 16th to 19th 1833.—In whatever light we view this exhibition of the products of American industry, there is something auspicious of our country's greatness and happiness. As a rich and beautiful display of the advanced state of the useful arts among us, we are proud in beholding it ourselves, and not ashamed to invite the liberal stranger from distant and older climes to draw his comparisons. It not only affords an illustration of the prosperous condition of our country, but presents demonstrative arguments of the wise policy of our legislative enactments. It seems to proclaim in one great national voice, that we are a brotherhood in all our pursuits by sea and land.

One of the most pleasing features of this fair is, that it fosters a taste, which, if not characteristic of our country, harmonizes with all our institutions. Not only forty to fifty thousand of the most respectable and intelligent of both sexes throng the hall during the few days of exhibition, but it secures the presence of the able and favorite sons of the nation—calls for the talents of orators from the distant parts of the Union, and thus becomes the annual fete of the metropolis of the western world.

The following list embraces most of the articles exhibited that are more intimately connected with rural callings:

Woollen Goods.—The Glenham Co., Fishkill, A. L. Ulrick, superintendant, for the best blue and black broad cloths, Peter H. Schenck & Co., 34 Pine street, agents—a silver medal.

The Great Falls Manufacturing Co., Sommers, N. H., for the second best blue and black broad cloths, John Spring & Co., agents, 52 Pine street—premium. All these cloths exhibit much skill in the manufacture and finish.

The Buffalo Woollen Co., for a fine specimen of blankets, S. Grosvenor & Co., 6 Cedar street—premium.

The Middlesex Manufacturing Co., Lowell, Mass. for the best piece of cassimere, a drab and printed cassimere, Steele, Wolcott & Richards, agents, 62 Pine street—a silver medal.

J. Buckley & Co., Poughkeepsie, for two pieces brown crape camblets and one mixed Napoleon cord, J. & W. Lockwood, agents, 19 Cedar street—a silver medal.

Black cloth from the Salmon Fall Manufactory, taken promiscuously from a case, and sent by Torrey, Goodwin & Mesier, the price $7 per yard.

Glass and Earthenware.—Joseph Baggot, 78 Maiden lane, for the best cut glass, both in the cutting and color of the glass—premium.

J. L. Gilleland & Co., Brooklyn, L. I., for the best plain glass—a premium.

The Jersey City Glass Co., for cut glass; some of the large specimens, being difficult of execution, do great credit to the manufacturer, and also for very good plain glass—premium.

The Boston Crown Glass Co., for well-made articles of excellent quality, by Charles Goff, 164 Maiden lane—premium.

Day, Venables & Taylor, Norwalk, Ct., for good articles of flint stone ware—premium.

Jos. Hemphill, Philadelphia, for porcelain, creditable in its quality and execution—premium.

Machinery and Models —Model of a steam engine, in brass, by H. Thompson, 64 Greenwich street, very neat.

A machine for softening hides, and a machine for rinsing hides; both recommended as useful inventions; by W. Brown, 28 North Moore street—premium.

Model of a new invention for steering steam boats, invented by John Harrald, watch-maker, 59 Nassau street.

S. L. Bartholomew, a very young man, 17 Lewis street, for the best specimen of a model of a steam engine, very ingenious—premium.

J. C. Bruce, 27 Peck slip, for a biscuit-making machine, a most ingenious and labor-saving machine—premium.

——— Ball, for a patent door-valve, by D. O. Macomber, agent, 52 John street—premium.

This is a very simple, useful, and ingenious contrivance, effectually preventing wind from coming under or at the sides of the door. The lock is connected by a spring with moveable pannels inside, and when the key is turned it causes them to protrude and fill up all the crevices,

Wm. Woolley, 378 Broadway, for metallic frieze window covering—premium.

Oliver Perkins, Maine, for a press, upon the principle of the inclined plane, very powerful, acted upon by a wedge, and requiring but small power—premium.

——— Collins, for a patent case-hardened axle and transom-hook—premium.

P. Hubbard, Vermont, for a rotary hand pump, simple, powerful, and lasting, and discharges six or eight gallons a minute—premium.

W. H. Sanders, 452 Water street, for a mangling machine, a very superior article—premium.

An ingenious machine for fringing paper, by E. Fitzgerald, 43 Eldridge street.

Mr. Thomas Miller's "Steam Bedbug Exterminator," for aught we see, will "use up" these remorseless cannibals pretty effectually. If Mr. Miller will carry this immortal utensil into Virginia, and there call it "*Chinche Destroyer*," he is a made man. We rejoice in common with the afflicted in both hemispheres upon the fair prospect of a mastery over these villainous insects. A bedbug is *hostis humani generis*, and the obligation to do execution upon him is universal. Fulton never dreamed of one-half the important benefits which his invention is likely to bring to mankind—premium.

Model of a cabinet bath, manufactured by D. Brumley, 40 Charles street—very good—suitable for the bed-chamber.

A rotary pump, by Mr. Walker, 455½ Broadway.

Cotton and Silk Goods.—The York Manufacturing Co., Saco, Maine, first premium for bleached and brown Canton flannels—a silver medal.

Wm. Almond, Philadelphia, for white and colored Canton flannels, Torrey, Goodwin & Mesier, agents—premium.

Johnson & Green, 136 Water street, for hair and silk seating—premium.

Smith, Wheeler & Fairbanks, 56 Pine st. for fine madder prints—premium.

Some beautiful embroidered silk bench covers, by Miss Julia Marcett, 182 Church street.

Stocks made by Mrs. Moody, 71 Reed street, very handsome; two on white satin, presented to Mr. Clay.

Horn & Schieffelin, 53 Maiden lane, for very superior specimens of knitting—premium.

Clarissa Hart, Westchester co., a piece of linen shirting and diaper—a silver medal.

Carpets and Oil Cloths.—Andrews, Thompson & Co., 180 Broadway, for the best three ply carpeting—first premium.

J. Humphrey, West Farms, N. Y., for the best Brussels carpeting—first premium.

Miss Charlotte Van Wyck, Poughkeepsie, for the best hearth rug—premium.

D. Powers & Co., Lansingburgh, for the best floor oil cloth—a silver medal.

Two excellent specimens of furniture oil cloth, from Philadelphia, by Mr. Macauley—premium.

Hemp.—Abraham Varick, Utica, for a specimen of hemp grown in Lewis county, presented by Peter Remsen & Co. Pearl st., as a sample from 100 to 200 tons of the parcel—premium.

A beautiful specimen of Sisal hemp, from H. Perrine, of Campeachy—S. Fleet, 87 Washington street.

H. Huxley & Co., 87 Washington street, for 24 specimens of grass seeds.

Silk Culture.—Mr. John H. Mabbett, 177 Grand street, for the best specimen of raw and sewing silk—premium.

Miss A. M. Parmentier, Brooklyn, L. I., for the best specimen of cocoons—premium.

Noah Wetmore, manager of the New-York Hospital, for a good pair of silk stockings, from the silk produced at that institution—premium.

Specimens of silk manufactured at Hartford, Conn. by Mrs. Moore, considered to be fully equal to the Italian.

Ladies' Straw Hats.—Miss Daniels, 116 William street, for a split straw cottage bonnet—1st premium.

E. & S. Merrill, 332 Broadway, for ladies' silk hats, a complete specimen of taste and workmanship—premium.

A. & S. White, 435½ Pearl st., second best split straw bonnet—premium.

Wool.—George Coggill & Son, 275 and 293 Pearl street, for a specimen of very

fine American Saxony fleece wool, from the state of Ohio, very fine, and rarely surpassed by the best samples of foreign wool—premium.

Hats.—B. J. & J. W. Hunt, 94 Delancy street, for the best beaver hat—first premium, a silver medal.

Orlando Fish, 198 Chatham street, second best do.—premium.

A fine specimen of beaver napped hats, on wool bodies, well worthy of notice, by Orlando Fish—premium.

Plaited hats, well worthy of notice, Joseph Juel, 221 Broadway—premium.

West & Scholey, 196 Hudson street, for superior black satin beaver hats—premium.

Onwin & Simms, 5 Chatham square, for superior drab satin beaver hats—premium.

Leather.—D. B. Winton, Herkimer county, for a specimen of excellent leather, by Corse & Thorne, 14 Jacob street—premium.

Hardware.—Miller & Smith, 95 Maiden lane, for edge tools of superior quality, A No. 1—a silver medal.

Williamson's screw augers, a very ingenious improvement—premium.

Tin roofing, by John Woolley, appears to be an improvement upon an old plan—premium.

R. Heinich, Elizabethtown, N. J. for tailors' shears of superior quality and shape—premium.

A quantity of cast steel plate augers of good workmanship, said by judges to be a great improvement; to be had of J. H. Taylor, 4 Fletcher street.

Door plates, well executed, by T. R. Whitney, 11 Madison street.

Cutlery, very good, quite equal to that imported from Sheffield and Birmingham, exhibited by Miller & Smith, 95 Maiden lane.

Oliver Ames, Easton, Mass. for the best spades and shovels, sold by Sampson & Tisdale, 218 Water street—a silver medal.

Daniel Adams, Springfield, Mass. for the best sand-paper, A. & S. Willetts, 303 Pearl street—premium.

O. Dickinson & Co. for the best twisted gimblets ever seen (by the judges), Hubbard & Casey, 48 Exchange Place—silver medal.

T. & B. Rowland, Philadelphia, for the best mill and cross-cut saws, Edward Field, 219 Pearl street—premium.

Parr & Fowler, 24 Canal street, for a first rate impenetrable lock—premium.

Thos. H. Potter, Phillipsburgh, Penn. for the best large wood screws, Samuel Corp, 45 Pine street—premium.

Jesse Delano & Co. 97 Water street, for a superior iron chest—premium.

A. Harrison, for axes, first rate finish, Sampson & Tisdale, 218 Water street—silver medal.

Second best shovels, Dan. E. Delavan, 389 Broadway—premium.

Pitchforks, J. H. Rogers, Colebrook, Ct. none better—premium.

Second best knob locks, Thos. Pye, 143 Leonard street—premium.

Best silversmith's anvils, Wilcox & Roys, Sawpitts, New-York—premium.

Italian iron, a good article, Sam. Harrison—premium.

A rotary pump by Elisha Hale, worthy of notice—premium.

Brass fire sets, Smith's, fine specimens, D. E. Delavan & Co. 489 Broadway—premium.

Japanned tea trays, fine specimens, J. Smith, 217 Water street—premium.

Brass and copper wire, well manufactured, Holmes, Hotchkiss, Brown & Elton, J. L. James & Caswell, 287 Pearl street—premium.

Specimens of rolled brass and gilding metal, from Messrs. Benedick & Co. Waterbury, Conn.

Cast iron, *malleable*, various articles, such as coach steps, two bars welded the same as wrought iron, coach hinges, finished in handsome style, coin, carriage and harness mountings. These articles have all specimens of their kind hammered, bent and welded, showing them to be equally strong as wrought iron, and capable of being applied to any use: from Messrs. Crocket, Boyden & Co. of Newark, N. J.

The Fine Arts.—P. Kopman, of 342 Broadway, first premium for the best specimen of landscape painting in oil.

C. Bowen, 523 Pearl street, for the best water color drawing—a marine sketch—premium.

Three miniature paintings by Mr. Chambers—premium.

A view of the Capitol in straw Mosaic, by Mary MacDaniel, recommended as worthy of particular notice—premium.

A fine specimen of ornamented stained glass, by T. Thomas, 86 Wooster street—premium.

Historical painting in burnt glass, by C. J. James, 117 Grand street, both specimens worthy of distinguished encouragement—premium.

Wm. Thompson, 80 Nassau street, for the best engraving on ivory, silver, brass, and copper—premium.

A well executed portrait of Dr. Mitchell, a good likeness, by Frothingham, of Boston.

Splendid specimens of porcelain vases, tea sets, fruit baskets, &c. painted, enamelled, gilt, of tasteful proportions and shapes, by Joseph Hemphill, of Philadelphia.

A painting of Henry Clay, a good likeness.

A likeness, and a good one, of Maj. Noah, of the Evening Star, by Miss Brower, of this city—premium; also, a miniature on stone, by the same lady.

Some good portraits, by Mr. Cepman, of 342 Broadway, an artist of eminence recently arrived from Europe.

A splendid engraving by Kearney, of the Last Supper—premium.

A full length engraving of Washington by Charles.

Chemicals.—Dr. Lewis Feuchtwanger, for his chemical, medicine and fumigating preparations—first premium, silver medal.

There is no branch of American industry worthy more of a particular notice and reflection for the mechanic than the chemical department, which is the guide in almost all transactions and manufactures. We were pleased with the splendid and extensive exhibition of the chemical productions of Dr. Lewis Feuchtwanger, who appears not to have spared either time, trouble, or expenses, for showing the citizens what he is able to do, and what we may hereafter expect from all our rational apothecaries. His large bottle with prussic acid, which he warrants to keep without deterioration for three years, has a very frightening appearance, remembering the spectator by the skull and marrow bones at the death or the "memento mori." Speaking of the acids, we see noticed on the catalogue of Dr. F. the Formic acid, or acid prepared from the ants, promising to be of important use in refining silver; and it is said that if alloys of silver dissolved in any acid is afterwards boiled with this acid, the precious metal is precipitated by it, which, if corroborated by successful experiments, is undoubtedly worth all thanks. Another article of great importance for the dyers is the celebrated Nordhausen oil of vitriol, which is nearly free of all water, and saves, therefore, a great time in dissolving indigo, which may be dissolved in this fuming acid in about half an hour, whereas the common oil of vitriol will require 4 to 6 hours to dissolve it.

E. C. & R. E. Moss, 492 Grand st., for purified cotton seed oil—premium.

J. J. Girard, 388 Broadway, for do., both equally good—premium.

Carving and Gilding.—L. Granbruni, 53 Vesey street, for the best specimen of wood carving—premium.

John B. Terrey, 50 Chatham street, for the best gilt picture frame—premium.

J. Tice, 80 William street, for the second best picture frame—premium.

James Spencer, 110 Orange street, for the best painting in imitation of wood and marble—silver medal.

Thomas Halliday, 479 Broome street, for a fine specimen of mould carving—premium.

We will never hereafter hear the "wooden ware of New-England" abused. Hyman Clark & Co. of West Stockbridge, Massachusetts, show some "coolers" turned, as "an unit," from solid wood—some parti-colored pails, &c. which are really beautiful, and redeem entirely the bad character of wooden dish utensils of old Barkhemstead.

The substitute for an amputated knee by James Kent, convinced us that this business of losing a leg is not so serious a business after all. Mr. Kent's *succedaneum* will, to say the least of it, answer an excellent purpose for those "who go down upon their knees to the fair."

Mrs. James Russell, 526 Broadway, for the best scrap table and shell work-box—premium.

We witnessed one specimen of female ingenuity and perseverance. It is a cape made of parrot's feathers, by Mrs. Little, of 440 Washington street, after four years' labor. The *plumage* is laid on so naturally that the most fastidious parrot in such a dress would call herself "pretty Poll."

Charles De Forest's (of the Phœnix Foundry) specimen of loaf sugar we believe cannot be surpassed in any part of the world. It is withal *cheap*, a consideration not to be overlooked by the consumer. We understand that it is made by an entire new process—premium.

John G. Rohr exhibited patent balances, which, on account of their simplicity of construction, and accuracy of principle, are superior to any thing of the kind ever offered in the United States. It consists of a combination of levers in different proportions, by which a very small weight is made to equipoise any power, so that one pound may be made to balance ten, or a hundred pounds. The frame on which the machinery is placed may be either fixed in solid masonry, if intended to weigh heavy burdens, or on wheels, when to be used in stores, magazines, wharves, or public weighing places; also, on a smaller scale, to be used in stores of any description, for the purpose of weighing small weights. The principle of its con-

struction is very accurate: any fraction of an ounce may be precisely ascertained.

For tinning hollow ware, cast by Crocker & Richmond, of Taunton, tinned by Mr. Nabbet, same place—Tisdale & Richmond, 210 Water street, agents—first ever manufactured in the United States—a very valuable article—a silver medal.

For enameled hollow ware, upon the plan of German ware, manufactured by Webster & Co., Albany, a perfect article, and as high or higher than the German article—a most valuable manufacture—a silver medal.

Mrs. Betsey R. Voorhees, Amsterdam, Montgomery co., for a fine merino shawl, and fine woollen, linen, and cotton stockings, dyed, spun, and manufactured entirely in her family—a silver medal.

Dr. Lewis Levesky, 53 Mott street, for a specimen of mustard, agreeable in flavor and of very superior quality—a superior article.

Robert Usher, a specimen of beef cured according to the Irish method, by which provisions are preserved in long voyages—a very superior article.

Corns.—A piece of moistened tobacco, and bound around the toe, is recommended by the New-Hampshire Spectator, as a sure cure of corns.

Planting Fruit Trees.—This is one of the best months in the year for planting out fruit and forest trees. In removing them care should be taken to prevent the roots being touched with the frost, as that is sure to kill them. Tender plants and shrubs about the yards and gardens should be covered with straw or rubbish to prevent them from being injured by early frosts.—[Goodsell's Genesee Farmer.]

Beans.—These should be gathered before they have been soaked by the long autumnal rains, which greatly decreases their value, either for cooking or planting.—[Ib.]

Beets.—Beets should be taken from the ground before their crowns are injured by the frost, otherwise they will not keep well. They should be corded up in the cellar with their tops out and a layer of sand between each layer of beets—carrots and parsnips should be kept in the same way. Although the latter will indure the severity of winter if left in the ground, yet their flavor is greatly improved by managing as above, besides they are ready for use at that season when they could not well be procured from the garden.—[Ib.]

Good House-Keepers.—If there be any thing among the temporals to make life pleasant, it is in the walls of a well ordered house, where all is adjusted to please—not by its finery or costliness, but by its fitness, its air of neatness and content, which invite all who enter to taste its comforts. The woman who does not make this a grand item in all her routine of duties, has not *yet* learned the true dignity of her station—has not yet acquired the alpha of that long alphabet which is set before her; and she who despises this noble attainment despises her *best* worldly good, and indirectly despises her family, her neighbors, and the word of God. "She looketh well to the ways of her household," was spoken by the wisest man that ever lived, and will be told a memorial of all those who have been eminent for this noble character.—[Gen. of Tem.]

Poultry.—Fowls of every sort may be profitably fed on boiled potatoes and meal mixed. Hens which do not lay in the winter should have access to slacked lime, pounded bones, oyster shells, or other matter, which contains lime in some of its compounds, because something of the kind is necessary to form the shells of their eggs, which are composed of the phosphate of lime.

Clinton High School Association.—We are indebted to the American Annals of Education for the following articles on the interesting subject of manual labor schools:

An association under this name has also been recently formed in Plattsburgh, whose object is the formation of a High School in that vicinity, with which shall be connected "a farm, and such other appurtenances as may be necessary to promote the interest of said institution, by rendering facilities to students in acquiring an education."

Manual Labor Schools.—We are gratified to see that the subject of Manual Labor Schools has been taken up with zeal by two of the most extensive religious denominations in our country. From a report of the "Society for the promotion of liberal and common education, under the patronage of the Methodist Episcopal Church," we learn that a committee was some time since appointed, to consider the subject of connecting manual labor with study, in their schools and seminaries. This committee consisted of Messrs. G. P. Disosway, T. Merritt and J. L. Phelps, and the report was printed by order of the Society, in the New-York Christian Advocate and Journal, of August 16.

From a patient examination of the whole subject, the committee state their full conviction of the importance of Manual Labor Schools. They say that the plain inference from existing facts is, "that the body and the mind should be disciplined together; hence it becomes a matter of the first consideration, to promote such plans of instruction as will form vigorous minds, exerting that power in vigorous bodies."

Worcester Manual Labor High School.—The Committee for superintending the arrangements of the premises for the organization and operation of this proposed school have purchased a tract of land of about sixty acres, embracing a beautiful elevation in the southern part of the village, on the Brookfield road.

The plan of the grounds embraces reserved lots for the erection of such shops as may be necessary to carry into effect the system of manual labor, and other buildings that may be required for the convenience and accomodation of the school.

Although this school will owe its existence mainly to the liberality and energy of the Baptist denomination, yet we assure the public that there will be nothing sectarian in its character. The Committee will expend about $12,000 before the first of April next, when it is expected that the school will be opened.

Institution at Haddonfield.—The General Baptist Association of Philadelphia have purchased a farm at Haddonfield, for the purpose of commencing a theological college on the manual labor system. The farm consists of 100 acres of the finest land.

Connecticut Baptist Literary Institution.—A seminary was opened in the town of Suffield, Conn. on the 21st August, with thirty students, and their number has since increased to sixty. The trustees assembled for the transaction of business, and adopted such measures as seemed necessary to promote the progress and welfare of the institution. Drafts and estimates for buildings were presented; arrangements made for securing *immediate* productive labor for the students, a site was purchased, &c. The site is a commanding eminence in the centre of the town, fronting on the main street leading from Hartford to Springfield. It contains sixteen acres of most excellent land, in a high state of cultivation. Connected with it is a spacious dwelling-house, and other buildings. The cost is $3500. A better location, in all respects, could not be found, though many beautiful sites were shown to the Board. The brick for the seminary is purchased, and measures were in operation to give all possible speed to its erection and completion.

School in Dayton, Ohio.—A manual labor school is also about to be opened in Dayton, Ohio. We do not know that it is attached to any particular denomination.

Premium Butter.—At the Pawtuxet Agricultural Fair, held in October, ult. the premium butter was sold at auction, and brought—1st premium 55 cents, 2d do. 40 cents, 3d do. 30 cents per lb.

Native Breeds of Cattle.—On reading the following report of the Committee of the Massachusetts Agricultural Society on milch cows exhibited at the Brighton Fair, on the 16th ult., our readers will perceive that attention and care given to our native stock will be rewarded.

The Committee appointed to award premiums on milch cows, heifers, bulls, and bull calves, have attended to the duty assigned them, and report as follows:

The first premium, to Mr. John Leathe, of Woburn, for his cow, 5 years old, $25.

The second premium, to Mr. Luther Chamberlain, of Westborough, for his cow, 12 years old, $15.

The third premium, to Mr. Jacob W. Watson, of Princeton, for his cow, 7 years old, $10.

Mr. Leathe produced to the Committee a well attested certificate that his cow had given, for the months of June and July last, not less, at any time, than twenty-four quarts of milk per day, and that fourteen pounds thirteen ounces and a half of excellent butter had been made from her milk in one week. She was sold for $100.

Mr. Chamberlain also stated, in writing, that his cow was remarkable for giving milk of very superior quality; that she gave from the 10th of June to the 20th, from nineteen to twenty quarts of milk per day, and from her milk during the ten days were made seventeen pounds of butter and thirty pounds of cheese; that the quantity of milk was reduced considerably from the 10th to the 20th of September, owing to the dry weather, and particularly to the want of a regular supply of good water; that for six months past the cow has actually produced him ninety-four dollars twenty-two cents, including eight dollars forty-two cents, for which sum the calf was sold, and fatted on little more than half the milk she gave.

Mr. Watson also furnished a certificate, to which he made oath, that his cow gave from the 10th to the 20th of June from twenty to twenty-one quarts of milk per day, from which was made seventeen pounds of butter for ten days; from the 10th to the 20th of September she gave from sixteen to seventeen quarts of milk per day, and thirteen pounds of butter were made from the milk she gave during the ten days. The three cows were native breed, and had only grass feed during the time stated in the certificates.

Heifers.—The first premium to Captain Ichabod Nichols, for his heifer, with a calf by her side, $15.

Second premium, to the Rev. Mr. Briggs, of Lexington, for his heifer, 17 months old, $12.

Third premium, to Captain Hector Coffin, of Newbury, for his heifer, 3 years old, with a calf by her side, $8.

Captain Nichols was present, who, with his son, gave such an account of his heifer, of native breed, that the Committee, on examining her, had no hesitation in awarding the first premium. Captain Nichols' knowledge of milk stock is well known.

A certificate was produced, signed by two respectable men in Lexington, that accorded so well with the appearance of the animal presented, that the Committee awarded to the Rev. Mr. Briggs the second premium for his heifer of native breed.

Captain H. Coffin furnished ample testimonials of his heifer being of the best native breed for the dairy, but the calf with her being young, no trial of quantity or quality of her milk had been made, although appearances were favorable.

336

CULTIVATION OF SILK IN THE NORTHERN PART OF THE UNITED STATES.—The numerous and detailed experiments which we have from time to time laid before our readers, on the subject of silk culture, must have convinced them that no obstacle exists to the successful prosecution of this great and important branch of domestic industry. The following experiment, from the N. H. Spectator, made by Dr. Frost, of Plainfield, N. H., in the latitude of 43°.30, not only establishes the fact that the worm will perfect its cocoon in the Northern States, but that the whole business is perfectly simple. He states that he had no knowledge on the subject from personal experiment and observation previously to his present undertaking. The Doctor observes:

On the 20th June last past my eggs were hatched. I counted out 1,500, and took a few more to supply the place of those that should die in the several stages, say from 50 to 100. These were uncounted. My calculation was to raise about 1,500. By reason of the cold and rainy summer the worms were retarded in their growth, as will always happen—warm and dry weather being the climate suited to the full perfection of the worm, and to facilitate its growth and maturity; yet the food in either case will be about the same—the only difference will be the length of time required for the insect to eat the same quantity of leaves. The first cocoon was wound on the 38th day of the age of the silk worm. After the fourth moulting, or in other words, shedding of their skin—for they shed their skin four times during their life, before they commence winding their balls or cocoons—they are usually about 10 days in winding up their cocoons. Previous to their moulting the fourth time, I counted about 1,450; so that 50 had died out of the 1500, besides the tworms I held in reserve as above stated. Of these 1,450 worms, besides those that died during this last age of the worm, and during their winding, I counted 912 that remained on the shelves the 40th day—585 on the 42d day—303 on the 43d day—186 on the 44th day—90 on the 45th day—43 on the 46th day—26 on the 47th day—13 on the 48th day. In ten days from the beginning of winding, all had wound their cocoons except 13 worms. In 4 days more these were all wound. The whole time the silk worms were progressing through their several ages, each age designated by the moulting, including the winding, were 53 days—the usual time is from 42 to 45 days—retarded no doubt from the cold and dampness of the season. There died in the whole, 257 during the several ages, till the completion of the cocoons. I had 1,243 cocoons of all descriptions, and but few, say 15, that would not reel off. The reserved uncounted worms are not included in this estimate.

The weight of cocoons before reeling, and as soon as they were picked from the bushes, weighed 4 lbs. 5 oz., 20 cocoons weighed precisely one ounce.

Raw reeled silk	6¼ ounces
Raw silk	1¼ ounce.

Making the whole product of silk nearly one half pound.

The weight of leaves consumed and wasted was 75 lbs.

After I had found the quantity of leaves the 1,500 worms consumed, I made a comparison with a statistical table communicated in a letter to the 20th Congress of the U. S. by Hon. James Mease, on the method of rearing silk in Bavaria, and found by this table, 20,000 silk worms consumed 1,000 lbs. mulberry leaves—exactly corresponding to 75 lbs. for every 1,500 worms—and that from 7 to 10 lbs. of cocoons make a pound of raw or reeled silk—from this estimate the product of my experiment nearly coincides, for 4 lbs. and 5 oz. produced 7¾ ounces of silk. Nor does this estimate of the consumption of leaves and the product of silk materially differ from the estimate and exact result of Count Dondolo—transmitted to Congress by the Hon. Richard Rush, then Secretary of State.

It will readily be perceived that the rearing of silk worms, in our state is practicable and with due management equals the product raised in Bavaria, and the careful management in the extensive laboratory of Count Dondolo, where 8 ounces of eggs, or 160,000 worms are reared. In this laboratory the leaves are chopped, the thermometer regulates the temperature, and the pyrometer the dampness of the atmosphere; and every measure of precaution is used to secure the worms from disease—by ventilation, by stoves, and by cleanliness. On reading these treatises and observing all the nice directions contained therein, any person would almost shrink from the task and become discouraged, before they attempted to enter a field where so many obstacles seemed to threaten him. I have chopped no leaves—made no fire but once or twice, and then when the weather was extremely cold and damp for the season. I gave them what they would eat, and they appeared to know what to do with the leaves as well as any other insect, and not more at a loss about it.

I am fully of opinion that the culture of silk is as easily learned as any other kind of business or art—and that many families in every town would find as profitable a reward for their labor as our rich farmers do, by correspondent care and exertion. ELIAS FROST.

Plainfield, August 27, 1833.

IMPROVED CORN.—This is the season of the year when all those farmers who have not previously attended to the subject should go to their cribs, and select some of the best ears for the purpose of planting, with a view of obtaining in the course of a few years an improved variety of corn. Among the experiments which we have seen recorded, the following seems to ripen early in comparison with others:

Dr. Oliver Fiske of this town has left with us a specimen of corn, of a kind which he has raised for three years past, and which appears worthy the attention of our farmers generally. It has now been fully ripe for near a month, and being thus early, it is not only safe from the frost, but, in consequence of filling out and ripening in the warmer part of the season, is more likely to be sound and heavy than that which ripens later. The kernel and ear are about the size of the common corn, and Dr. Fiske thinks it will yield as large a crop as any corn he ever raised.—[Worcester Spy.]

THE PROFESSION OF A FARMER.—The North American Magazine, reviewing P't Lindsley's address, which we noticed in former numbers of the Farmer, makes the following extract and comments:

"I have long thought that our college graduates often mistake their true path to honor and usefulness, in making choice of a learned profession, instead of converting agriculture into a learned profession, as it ought to be, and thereby obtaining an honest livelihood in the tranquil shades of the country."

In the praise of Agriculture he might have gone further, and extolled it as an occupation at once sublime and useful—which ennobles man, gives peace to his mind, virtue to his heart, placidity to his countenance, and calmness to his passions. Absorbed in the holy contemplation of mute but eloquent Nature, or engrossed in the avocations that give sustenance and comfort to his fellow beings, he is equally blessed in the fruit of his labors or the fragrance of his meditations.

CORN COBS FOR CATTLE AND BREAD.—In a western paper we find the following. If the facts detailed should be sustained by future experiments, we know not why the use of the cob and corn ground together may not become general. We have heard objections made by farmers to the use of the cob, but do not recollect what they are.

Many farmers in this country have within a few years converted the cobs of Indian corn to a use formerly unknown.

The corn and cobs are ground together and given to swine and other domestic animals for the purpose of fattening them. We understand the experiments thus far have proved successful, and that swine and cattle intended for slaughter will grow as fast as on any other fodder. A gentleman in Shrewsbury, Mass. has for seven or eight years used corn and cobs cracked and ground together for provender, and he says it is the best he has ever used for fattening cattle. An experiment was tried a few years ago by feeding one ox with corn and oats ground, the other with corn and cobs—the two oxen being so well matched that no one, on viewing them was satisfied which was best: accordingly they were fed as above. Each ox had an equal quantity at a time, except the one which had corn and oats sometimes became dainty, and would not eat his allowance, while the other kept his regular course. The allowance for both was about three pecks per day. The cattle were taken to market, and weighed about 2800 The one fed on corn and oats had 162 lbs. of tallow. The one that was fed on corn and cobs had 163 lbs. of tallow, and the purchaser of the two oxen pronounced the beef of the latter to be worth half a dollar on the hundred more than that of the other, on account of the color of the beef.

It has also been proved by actual trial, that good and palateable bread may be made from corn and cobs, ground about half and half, sifted as usual, and the addition of the usual quantity of rye meal.

Mills for grinding corn and cobs together have been erected in several small towns in Massachusetts.

CHESNUT ORCHARDS.—The price of chesnuts in our markets has led us to think that many farmers might, with profit, devote a portion of their less productive lands to the cultivation of the chesnut. They have commanded, this season, from $6 to $2 50 per bushel. At this rate an orchard would be profitable, independent of the timber. The tree is of quick growth, and produces abundance of shoots or sprouts from the stump.

PLANTING FOR CHILDREN.—The strong desire existing in the human breast to provide for our offspring converts that toil, which produces sweat on the brow, into pleasant and cheerful exercise. The farmer rises early and labors until the setting of the sun, in planting, sowing, and reaping—and all this to feed and clothe his family, in the hope, too, of having a little annual surplus for his children when he is gone; but, alas, how many toil in vain!—twenty, thirty, or forty years of care and labor appear to have made no provision for the rising members of the family. Had there been plantations of valuable timber or fruit trees made by the farmer in his young days, their produce would now give a son or daughter a considerable "setting out." Remember this is the season for planting.

CANAL TOLLS.—We learn from the Albany Argus that the amount of Tolls received upon the State Canals in the month of September, was $203,685,82; being an increase of $52,634, as compared with the receipts of the same month last year. Receipts of the year to 30th September, $998,176,20; exceeding the receipts of last year, down to the same date, more than $210,000.

PRICE OF LAND IN VICINITY OF NEW-YORK.—Under the head of Speculation and Improvement, the Long Island Star makes the following statement. Our distant readers must not suppose that these prices can be obtained for land to be used for farming purposes. Prospect Hill affords one of the most commanding views in the vicinity of the city- very desirable country residences for those who want but little ground.

The commercial prosperity of New-York and Brooklyn, and constant accession to the population of the two cities, is drawing attention most powerfully to the *ground* on which future erections must take place. The farms round about Brooklyn are about to be cut up into house lots, and sold at great prices. The land on Prospect Hill, three miles from Brooklyn ferry, on the Flatbush road, have been selling for more than one thousand dollars per acre. Last week an entire farm at Wallabout, owned by John Spader, Esq. and embracing 73 acres, was sold at one thousand dollars per acre. The purchasers have had a new plan and survey made, and have already made contracts to sell at advanced prices. All the shore from Brooklyn to Newtown will, probably, ere long, be occupied by wharves and ship-yards, and all the ground for two or three miles from the river be taken up for manufactories, and places of residence. Nothing but some great and violent derangement of the present prosperity can interrupt these improvements.

SASSAFRAS TEA.—A writer in the Farmer's Register, after stating the difficulty which he has experienced in subduing sassafras bushes, gives the following account of the exportation of the roots:

Upon chewing the leaves, at any time from their most tender and succulent state, to their full maturity, they will be found full of mucilage, which, it seems likely, may be of use in medicine, or the arts. It is well known that every part of the sassafras tree has a delightful smell, and a pleasant taste. The blossoms dried, and the bark of the root, make a tea which is so agreeable that I think nothing but the abundance and cheapness of the material has prevented its being generally used for this purpose. About twenty years ago a trade in the roots of sassafras was commenced, by sending it from James river to England, where the use of the tea was extending among the lower classes. The roots commanded a good price, and the trade promised to be profitable to us; but the jealousy of the East India Company (as it was said) caused this new trade to be quickly destroyed, by new and prohibitory duties on the article. During the few years that the exportation continued, the large roots of nearly all the sassafras trees in my neighborhood were dug up for that purpose; but as there was no difference of price offered, the roots of small shrubs, (though vastly superior in delicacy and strength of flavor,) were never used for sale, as they were much more troublesome to collect. If the purchasers had known the difference of value, a ton of small roots would have been sold for as much as twenty tons of whole stumps and large roots of trees, which formed nearly the whole amount of the commodity exported.

PLASTER OF PARIS.—There is no one practice which shows the importance of observation, reasoning and science, in farming operations, than in the use of plaster. In many districts it has been applied with diminished effect, until it has become wholly inert, and the soil completely exhausted. Hence the opinion has pervaded the agricultural community, and adopted by many, that this is the general effect of plaster. There are other portions of our country where it has been successfully used for forty years, regularly adding to the fertility of the soil; and here and there we hear of a farmer in almost every town, where judgment has been pronounced against it, continuing its use with the same good results. Those who have met with success have used it, not as a substitute for other manures, but to render them more effective. They are careful to return to the soil more than they take from it, particularly by turning their luxuriant growth of clover.

FARMER'S LIFE.—What a happy country this would be, if every farmer's house really enjoyed all the peace and happiness which is pictured in the mind of the writer of the following. How many thousands of farmers would be happy if they carefully cultivated those feelings and desires that produce happiness:

We should think the farmer's life must be one of happiness. Could our friends amongst that class look in upon us, and witness the "doings" of a printing office, they would thank their stars that they pursued a different calling. If there is any time when we are inclined to indulge feelings of envy, it is when we get loose from our confined and sedentary labors, after twelve or fourteen hours digging among the types, and sally forth to observe what is passing around us. It is then, as we compare the healthy looks of the farmer with the ghost-like appearance of our brethren of the ink and types—see the fruits of industry ripening before us, and observe the look of good nature and happiness shining through every feature, as he gazes upon the growth of that which his hand has planted—and hear the voice of health, and joy, and plenty from his farm house—we are almost led to believe that the good things of this life are not equally distributed.

It is the truth that mankind are not half sensible enough of the farmer's situation in regard to happiness, over every other class in the community. While the merchant, mechanic, and the professional man, are harassed with care and anxiety, the farmer's life is as free and clear as the air that meets him when he goes to his field. After the labors of the day are over, the husbandman can retire to his home, and enjoy the "luxury of rest." Not so with the man of business: he only exchanges perplexing toil for anxious reflection; and while the "lord of the soil" is dreaming of fat oxen, and agricultural prizes, his eyes are unclosed, and his mind is upon the stretch in an endeavor to invent means of taking up notes at the bank, or some such equally pleasant cogitations.—[Old Colony Press.]

TO PREVENT HORSES FROM BREAKING BRIDLES.—We have heard farmers speak favorably of the following method of managing horses, recommended by the Farmer's Register:

While writing this letter, my attention was arrested by a person calling to another to run and prevent a horse from breaking his bridle, that he had just been tied by. I will, therefore, state how I broke a valuable mare from that habit a few years ago. I came home one day, and tied her, and had scarcely reached my door before she broke a new bridle into three parts, and ran off. I ordered her to be brought back, and after some reflection, I cut a piece of leather about four inches long, and about as wide as the head-stall, and drove two rows of small nails through; while this was fixing, I ordered a small pad to be made, about the size of the leather, and filled it with wool; I then pressed the points of the nails into the pad, and put the leather under the head-stall, and walked off. She gave a sudden jerk to clear herself from the bridle, which forced the nails through the pad into her head, after which she made one or two slight efforts, and stood still. I then took a horsewhip and gave her several cuts, but she would not break away: she appeared more afraid of the nails coming in contact with her head than she was of the whip. After this, when I tied her for two or three times, I slipped the pad and leather under the head-stall, which effectually broke her; and since, I have broke another in the same way. Both of these were young beginners; but I imagine that old offenders can be broken in the same way. This can be used to make a horse lead into a place, or pass a fence or ditch, which otherwise he would be unwilling to do.

WATERING LIVE STOCK IN WINTER.—In very cold weather it is the practice of some farmers to water their stock only once a day—about 12 or 1 o'clock. At this time is not that piercing difference between the temperature of the stables and stalls and that of the open air. It is a bad practice to take horses from the stables at any time and keep them standing by the trough until they become chilled. They should be made to stir, to keep up the glow and warmth of the body.

UNDER-DRAINING.—A writer in the Genesee Farmer states that under-draining, 30 to 32 inches deep, is performed on his farm at less than 9 cents per rod. A contractor or laborer makes 10 rods per day.

WHEAT—*Fertility of Western New-York.*—We would wish some of those living in the "down east" counties of this state would inform us of the quantity of wheat they have raised, that the fertile West may know that we too can boast.

"In an article commenting upon the abundance of harvest, the Onondaga Standard asks, "What will the farmers down east say, when we inform them that we can name individuals in this county, who have harvested, the present season, 1500, 1800, and in one instance 3000 bushels of wheat?" If our friends of Onondaga make these matters the subject of such exultation, we may ask, and we do it with no disposition to undervalue the blessings of our neighbors, what must the farmers down east say, when we inform them, that we can name individuals in Livingston county, who have harvested, the present season, more than 6000 bushels each; aye, and in one instance, more than 4000 bushels have been cut from 100 acres of land, which, without the intermission of a single year in 25, has been in crop? The county of Livingston contains twelve towns, which will, this year, market her million bushels of wheat. We hope this intelligence may lead the farmers "down east" to duly appreciate the growing, if not full grown, importance of the West. We further hope that when we again present, as assuredly we shall, our claims for a canal through the valley of the Genesee, no voice shall be heard from "down east" against the utility or practicability of such a measure.—[Livingston Journal.]

TO PRESERVE APPLES.—Many methods are given to preserve apples, and most of them troublesome and attended with inconvenience. Often having seen barrels of very fine sound apples in market as late as May, and June, and July, we made inquiries respecting the mode of preserving them. In most instances we found that the apples were carefully picked, and packed away in a dry state, in well-seasoned barrels, and put in an airy dry cellar or room, where they will not freeze, and where there is not much change of temperature. They should be examined as often as their sound preservation requires. Putting sand in the barrels, and wrapping the apples in paper, are among the methods recommended.

RATIONAL AMUSEMENT.—The love of literature has prevailed from very early times among the inhabitants of the remote island of Iceland. There the way in which the evenings of their long winter are spent furnishes a most agreeable contrast to the miserable pot-house debauchery which fills up the leisure of too many uncultivated Englishmen, and proves the value of well regulated knowledge as an auxiliary to virtue. A distinguished traveller, who spent a winter in Iceland, has described a winter evening in an Icelandic family, as rendered instructive and pleasing in the highest degree by the prevailing love of useful knowledge among all ranks. As soon as the evening shuts in, the family assemble, master and mistress, children and servants. They all take their work in their hands, except one, who acts as reader. Though they have very few printed books, numbers write excellently, and copy out the numerous histories of their own island. The reader is frequently interrupted by the head of the family, or some of the more intelligent members, who make remarks and propose questions to exercise the ingenuity of the children or the servants. In this way the minds of all are improved in such a degree, "that," says my informant, "I have frequently been astonished at the familiarity with which many of these self-taught peasants have discoursed on subjects, which, in other countries, we should expect to hear discussed by those only who have devoted their lives to the study of science." Let me not omit to add, that the evening, thus rationally and virtuously begun, is, by these well-instructed people, closed with an act of family devotion.—[From an excellent little work just published, "Bullar's Hints and Cautions in the Pursuit of General Knowledge."]

NEW OVEN.—We have lately examined a model of an oven on a new construction, invented and patented by Mr. Joseph C. Carlisle, of Chesterville. It is built of brick, like any oven, but below the hearth is a vacancy for the fire; and the flue runs spirally around the outside of it—so that it is heated from the outside. It requires no sweeping or wetting of the hearth, and of course is exempt from the cracking which is often occasioned thereby. It may be kept constantly hot, if necessary, as the fire does not communicate at all with the inside of it.—[Maine Farmer.]

MANGANESE.—It is perhaps not generally known that there has been discovered, in the State of Vermont, a mine or bed of Manganese, of a quality superior to the imported article. The Manganese mine is in the town of Chittenden, Rutland county, 29 miles from the shore of Lake Champlain, and has been worked since 1826. The manganese is raised from the mine, cleansed from the earthy particles, ground in mills erected for the purpose, and is sent to the New-York and other markets in barrels. It is understood that the New-York Chemical Company are to be supplied with two hundred tons of this article the present season. The principal use of manganese is for making the chloride of lime or bleaching powders, and for glass. The price of the manganese is between thirty and forty dollars per ton in market.

We mention this as a single fact, tending to illustrate the influence of our canals in developing and in bringing forth the resources of the country.

MOUNT AUBURN CEMETERY.—On Saturday, the 21st day of September, the Annual Meeting of the MASSACHUSETTS HORTICULTURAL SOCIETY was held, when the following report, in relation to the Garden and Cemetery of Mount Auburn, was made by the Committee charged with the care of those grounds. It will be found to possess much interest, particularly to members of the society, whether they are proprietors of cemetery lots or not.

The Garden and Cemetery Committee of the Massachusetts Horticultural Society have the satisfaction of reporting, that in pursuance of the authority granted them by the society, at their former meeting, they have made several purchases of land adjoining Mount Auburn, and making the whole quantity in the Gardan and Cemetery one hundred and ten acres.

The Committee have designated *as and for the Cemetery*, all the land lying south of the northern junction of Maple and Elm Avenues, of Garden Ponds, and of the junction of Primrose Path with Central Avenue, lying west of Central Avenue, which they hope will meet the approbation of the Society; the residue of the land is appropriated to an experimental garden.

They have laid out about four hundred cemetery lots, and have sold two hundred and fifty-nine lots of different dimensions, which, with the premiums paid for choice, amount to the sum of - - - - $17,291 72
Most of which has been paid in.
The loan that the Committee were authorised to make, was subscribed by individuals who are proprietors of lots, viz. - 4,400 00
Rent of a meadow - - 3 00

Total funds available - - $21,694 72
The Committee have paid for the land in cash - - - 7,413 14
For house for the gardener, and for implements and expenses relative to the garden, - 2,420 09
For fence, gate, avenues, tombs, and other expenses of various kinds, - - - - - 8,418 12

$18,251 65
For gardener's salary 3 months 150 00
Horse and cart for garden - 120 00
There is due to Mr. Cutter, David Stone, and the heirs of C. Stone, for land purchased of them, payable at future periods, 2,600 00
And sundry bills outstanding, for work, for the payment of which, however, funds are provided, as appears by the treasurer's statement, herewith submitted.

The committee have caused the whole estate to be surrounded by a fence, as substantial as the present means at their disposal would permit, but they hope it may be replaced hereafter with one of more permanent materials, and have erected a gate, of classical form, with lodges for a porter and other purposes. They have erected a cottage for the gardener, and have made about four miles of avenues and paths; and have constructed a receiving tomb at Mount Auburn, and purchased another under Park street Church, and have done considerable work in and about the garden and ponds.

The present situation and prospects of this interesting institution are highly flattering.

For eighteen months and upwards, free access was given to all who wished to visit the Garden and Cemetery, either on foot, or horseback, or in carriages; but it was found that great abuses were practised there, and the Committee deemed it essential to the prosperity of the institution that some check should be put to them, for many persons who had purchased lots complained that the Cemetery was used in a manner very different from what they had expected, destroying the solemnity and quiet which ought to prevail in a place of repose for the dead, and others stated that they had intended to purchase lots, but should not do so, if such indiscriminate admission were given to visitors,—by some of whom trees were mutilated, fences round the lots broken, and the lots themselves trampled on. The Committee then adopted the regulation of denying admission to persons on horseback altogether, of admitting the proprietors of lots in carriages, and of opening the gate to persons on foot freely, as before. With but few exceptions, this regulation has met with approbation, and the effects have been very salutary; in a pecuniary view it has been useful also, (though this was no part of the design of the committee in establishing it,) for many persons have become purchasers of lots, and others are known to be ready to purchase, for the sake of enjoying the privilege of entering the grounds with a vehicle; the committee are of opinion that from $1200 to $1500 worth of lots have been disposed of in this way; and as the Committee have no interest other than (in common with all other members of the Society) the desire of beautifying and improving the Garden and Cemetery, they hope that the regulation they have adopted will meet the approbation of the Society.

Nine monuments of marble or granite have been erected by individuals, and several others are now in preparation here and in Europe.

There are many objects of improvement for which the Committee hope that funds may be obtained—and among the first, for the erection of a small edifice, in which religious services at funerals may be performed. This is very much wanted, and it is to be hoped that such a building may soon be erected there.

All of which is respectfully submitted:

JOSEPH STORY, Chairman.

CHAIN SAW.—P. P. Quimby, of Belfast, (Me.) has invented a saw for cutting lumber, &c. which is believed to be an important improvement. The power may be supplied by horse, steam, or water. The Belfast Journal says: It is put together much like a watch chain. The teeth are separate, and new ones are added as easily as teeth can be set in the common saw. It runs over two cylinders with grooves, and saves more than one half of the time and labor of the straight saw, as it is constantly operating, and it moves like the circular saw. It saws back and forth, and thus saves all the time occasioned by the necessity of carrying back the carriage of the common saw. It unites most completely all the advantages of both the straight and circular saw, and promises to make a rapid and complete revolution in the whole business of sawing wood, marble, &c. We have seen the model, or rather the miniature, in successful operation, doing its office with surprizing precision and beauty. A

patent, we hear, has been secured, and a saw on a large scale will shortly be put into action. It has attracted much attention from many curious and practical observers of its principle and work, and will well reward the trouble any one may take to call and examine it.

New Saw.—A machine has recently been constructed by a Mr. Job White, of Belfast, Maine, by which a saw, of the proper form, is made to operate lengthwise of the log, cutting round it, and approaching the centre in a spiral direction, in such a manner as to cut the log into one continuous board. The board unwinds from the log, like the cloth from a weaver's beam.

This invention will be of great value to carriage makers, who use bass-wood boards for pannels, as they may be cut from much smaller, or even hollow logs.—[Northern Farmer.]

Objections to the received Theory of Rain.—It is the received opinion that rain is caused by the heat of the sun's rays raising the water in a state of vapor, into the higher regions of the atmosphere, and being there condensed by the cold, descends again, and thus forms rain.

Objection First.—That water requires a heat equal to sixty degrees of Fah. thermometer, to raise it into vapor, according to the commonly received opinion, when experience proves that we have the most rain when it stands below temperate, which is 55 deg.: for instance, the snow in frost, and the rain after.

Objection Second.—That when we have the greatest heat, with the largest loss of water, we have the least rain, as witness every dry summer.

Objection Third.—When vapor is condensed into water, which it must be if exposed to an atmosphere colder than itself, it must immediately descend, as witness the dews; it being heavier in its specific gravity than the bulk of the surrounding atmosphere. Therefore, were water raised into vapor, by the heat of 300 degrees, it must be immediately condensed by the sudden change of temperature, and descend before it had risen to the height of one hundred yards, much less rise into the highest regions of the atmosphere, and remain there for a length of time, and then form clouds, and so produce rain, as witness the steam arising from the boiler of a steam engine, or the refrigeratory of a common alembic.

Objection Fourth.—Experience has proved that we have the most rain in nights, and in winter, when, of course, it must be the coldest, as then the sun has the least influence.

Objection Fifth.—There is no vapor arises from the water when the sun has the most influence; for place a looking-glass over a river, when the sun shines with his meridian force, and it will not so much as dim it; but when the sun is gone down, the vapor rises so as to be visible.

Objection Sixth.—If the old theory be true, there would always be the most rain in the tropics, where the sun is vertical, which is not the fact.—[Field Naturalists' Magazine.]

Groom's superb Dwarf Blue Pea.—The very excellent character given to us of this pea has induced us to give it publicity. We calculate it will be found a great acquisition, and well worthy of a most extensive cultivation. It grows about a foot high, fans very much, produces a very large crop, boils greener than any other sort, is superior in flavor, according to the judgment of all who have tasted it; and has the advantage of being fit for use long after it has arrived at its full size, consequently continues in perfection much longer than any other.—[Horticultural Register.]

Season in China.—The following is taken from the Chinese Kalendar for 1833, republished in London:

"*January.*—The weather during the month of January is dry, cold, and bracing; differing but little, if at all, from the two preceding months, November and December. The wind blows generally from the north, occasionally inclining to north-east or north-west. Any change to south causes considerable variation in the temperature of the atmosphere.

"*February.*—During this month the thermometer continues low; but the dry, bracing cold of the three preceding months is changed for a damp and chilly atmosphere. The number of fine days is much diminished, and cloudy or foggy days are of more frequent recurrence in February and March than in any other months. At Macao the fog is often so dense as to render objects invisible at a very few yards distance.

"*March.*—The weather in the month of March is also damp and foggy, but the temperature of the atmosphere becomes considerably warmer. To preserve things from damp, it is requisite to continue the use of fires and closed rooms, which the heat of the atmosphere renders very unpleasant. From this month the thermometer increases in height until July and August, when the heat is at its maximum.

"*April.*—The thick fogs which begin to disappear towards the close of March are in April seldom if ever seen. The atmosphere, however, continues damp, and rainy days are not unfrequent. At the same time the thermometer gradually rises, the nearer approach of the sun rendering its heat more perceptible. In this and the following summer months, south-easterly winds generally prevail.

"*May.*—In this month summer is fully set in, and the heat, particularly in Canton, is often oppressive; the more so from the closeness of the atmosphere, the winds being usually light and variable. This is the most rainy month in the year, averaging fifteen days and a half of heavy rain; cloudy days without rain are, however, of unfrequent occurrence; and one half of the month averages fair sunny weather.

"*June.*—June is also a very wet month, though, on an average, the number of rainy days is less than in the other summer months. The thermometer in this month rises several degrees higher than in May, and falls but little at night. It is this circumstance, chiefly, which occasions the exhaustion often felt in this country from the heat of summer.

"*July.*—This month is the hottest in the year, the thermometer averaging eighty-eight in the shade at noon, both at Canton and Macao. It is likewise subject to frequent heavy showers of rain; and, as is also the month of August, to storms of thunder and lightning. The winds blow almost unintermittingly from south-east or south.

"*August.*—In this month the heat is generally as oppressive, and often more so, than in July, although the thermometer usually stands lower. Towards the close of the month the summer begins to break up, the wind occasionally veering from south-east to north and north-west. Typhons seldom occur earlier than this month, or later than the end of September.

"*September.*—In this month the monsoon is entirely broken up, and northerly winds begin to blow, but with little alleviation of heat. This is the period most exposed to the description of hurricanes called Typhons, the range of which extends southwards, over about one half of the Chinese sea, but not far northward. They are most severe in the Gulf of Tonquin.

"*October.*—Northerly winds prevail during the month of October, occasionally veering to the north-east or north-west; but the temperature of the atmosphere is neither so cold nor so dry as in the following months. Neither does the northerly wind blow so constantly, a few days of southerly wind frequently intervening. The winter usually sets in with three or four days of drizzling rain.

"*November.*—This month and the following are the pleasantest in the year, to the feelings, at least, of persons from more northern climes. Though the thermometer is not often below forty, and seldom so low as thirty, the cold of the Chinese winter is often intense. Ice sometimes forms about one-eighth of an inch thick, but this is usually in December or January.

"*December.*—The months of December and January are remarkably free from rain; the average fall in each month being under one inch, and the average number of rainy days being only three and a half. On the whole, the climate of Canton, but more especially of Macao, may be considered very superior to that of most other places situated between the tropics."

The following table presents a view of the range of the thermometer at Canton:

	Average, Noon.	Average, Night.	Highest.	Lowest.
January . . .	64	50	74	29
February . .	57	49	78	38
March . . .	72	60	82	44
April . . .	77	68	86	55
May	78	72	88	64
June	85	79	90	74
July	88	81	94	79
August . . .	85	78	90	75
September . .	83	76	88	70
Ootober . . .	77	69	85	57
November . .	67	57	80	40
December . .	62	52	70	45

[Penny Magazine: C. Knight, London.]

Cooking Potatoes.—They ought to be all of one size, and the floury sort should be steamed or baked gradually, that the insides or cores may be reduced to powder as well as the outsides; but the soft or waxy kind ought to be cooked over a strong fire, that their noxious moisture may be quickly extracted. When vegetables, and all other articles of food, are prepared, all further process of cooking should instantly cease, or they will deteriorate.—[Horticultural Register.]

[From Babbage's Work on the Economy of Machinery.]

Slide of Alpnach.—Amongst the forests which flank many of the lofty mountains of Switzerland, some of the finest timber is found in positions almost inaccessible. The expense of roads, even if it were possible to make them in such situations, would prevent the inhabitants from deriving any advantages from these almost inexhaustible supplies. Placed by nature at a considerable elevation above the spot on which they are required, they are precisely in fit circumstances for the application of machinery; and the inhabitants constantly avail

Method of preserving the Leaves of Trees, in Cashmere, as a substitute for Hay. [From the Manuscript Papers of the late Mr. Wm. Moorcroft.—Published in the Geographical Journal.]

In several mountainous countries, greatly distant from each other, and in which much grass, apparently of a good quality, might be cut for hay, as winter food for cattle, I have observed a preference given to the leaves of certain trees for this purpose: these were the willow, the mulberry, a variety of elm, and several others; but the first mentioned and the walnut were held to be the best, and considered to be much more warming and nourishing than any grass made into hay, especially for sheep. Small branches, after having been cut when in full leaf, and before they begin to lose any of their verdure, are immediately so disposed within the forks of the tree to which they belong, as to be thereby retained in the form of large hay-cocks. These branches are piled loosely, yet so engaged amongst themselves as not to be detached by wind, neither do they lose their leaves, nor are the least rotted, or in any other respect damaged, as to their fitness for food.

I am not mistaken in asserting, that the fat is whiter of the mutton of Cashmere, not only than of the mutton of Thibet, but of any other sheep I have seen; but whether this difference be wholly, or in a degree, owing to the sheep being fed on dry leaves, I have not facts enough before me to determine.

This forage, unless when very abundant, is reserved for the severe part of winter, when the cattle are driven under the trees, on which the store is suspended; and the dry branches being pulled down, are eaten by them with great avidity. The practice is thus simple, unexpensive, affords a considerable resource in a well-timbered or forest farm, and may, perhaps, be worthy of trial, if it prove not injurious to the growth or quality of the timber; on which, I refer to what I have already said of the management of walnut trees, in Cashmere. The scarcity of natural pasturage has forced the farmers of Thibet to cultivate the productions of their soil, as lucerne, &c. merely for the increase of fodder; whereas, in Cashmere, the exuberance of natural productions, the neglect of cultivating them to perfection, the selection of the leaves of forest trees, in preference to the leaves and other parts of grasses, and esculent roots, as turnips, &c. may bring the soundness of the judgment of Cashmere farmers into question, by the farmers of England. My observations on this preference are too limited to be of any practical value; but I am able to aver, that sheep, which had been preserved from dying by the rot, through feeding on dry prangos, fell off in condition greatly, when put upon clean washed turnips, and regained their former state rapidly on reverting to prangos. It appears to me not improbable, that if sheep, when they just begin to show symptoms of rot, by *arching their backs*, were put on a diet of dry leaves alone, they would be prevented from dying of this complaint; and I conceive, would prove speedily curative; also, in the case of the oscaris worm, and rustling in the wind-pipe of the lambs, fed on rank aftermath in the beginning of a winter, following a wet autumn. The arching of the line of the back, perhaps, produced by an attempt to relieve the irritation occasioned by vigorous activity of the small fluke worms, which have only just entered the gall-ducts, is a symptom I have never heard noticed by shepherds; but, according to my own observation, is the first which indicates their presence in the beginning of winter. When grass is also stored here for winter fodder, it is twisted into thick ropes, immediately after being cut; and in this state, hung across the upper branches of trees. Without other preparation for hay, it thus keeps free from rottenness, and generally even from mouldiness, notwithstanding the great quantity of rain and snow that falls in this country. Grass thus dried is generally given to the flock in a morning, and the leaves in the afternoon or evening; but the latter are most depended upon for fattening. Oil-cakes, made of linseed, walnut kernels, mustard seed, along with the seed of cotton, are employed for the purpose, and the flags or leaves of sedge.

Conveying Fruit Trees by Sea. [From Alexander's East India Magazine.]

The following is Mr. Barker's account of the experiment (conveying fruit trees by sea): "In regard to the means I possess of live plants of the white mulberry of Italy to Bombay, you will indulge with me in the expectations of the success of my endeavors, when I inform you, that when in Aleppo, for four years successively, I received, annually, from Messrs. Martin, Bardin, and Co. of Chamberry, in Savoy, two hundred to three hundred grafted trees of all the fruits of Europe, which were sent to me packed in damp moss, without requiring any watering or care on board ship, but thrown into the hold like any package of dry goods; and after being necessarily deprived of light, air, earth, and water, for five months, I have, sometimes, on unpacking them, found the tree in blossom. It has been planted, and I have, in two or three instances, eaten of the fruit of that very blossom."

PRESERVING WALNUTS.—In answer to the inquiry of W. M. page 90, I recommend that when fully matured, the nuts to be carefully plucked by hand, selecting the finest fruit, and using the same degree of caution that is due in plucking apples, so as not to bruise or crush the rind or hull; and then spread them singly on shelves or on a dry floor, scarcely permitting any one to come in contact with each other: after they have lain a month or six weeks, give them a very light covering of chaff cut from clean wheat straw. When wanted for the table, the rind or hull will cleave from, and leave the shell clean and fresh; and the kernel will also peel, and be found equally well-flavored during the entire year as when first plucked. Although I obtained the above information by one of my wicked pranks when a boy, yet it will not, on that account, be one whit less efficacious to W. M. if fairly adopted.—[Hor. Reg.]

DUTCHESS COUNTY FARMS.—We mentioned some facts, a few weeks since, to show the value of Dutchess county farms. We are enabled to add another. Mr. Stephen Hughson sold his farm last Monday, consisting of about 170 acres, and situate nearly three miles south of this village, for *seventy-two and a half dollars the acre*. About forty acres lie in a piece detached from the rest of the farm, rendering the premises somewhat inconvenient for farming operations. It is proper further to add, for the information of those unacquainted with the property, that it is in indifferent fence, and that the buildings are of very trifling value. The purchaser is a man of property, and intending to occupy it himself, will proceed, as soon as he gets possession, to erect a new house and out-houses, and to give the premises, in all respects, a new and improved appearance. Mr. Hughson purchased this farm about three years since, and the price for which he has sold it, affords him a profit, upon the sum he then paid, of between *forty-six and forty-seven hundred dollars*. So much for the prosperous condition of the country generally, and of Dutchess county farmers in particular.—[Poughk. pap.]

GREAT TURNIP.—Capt. J. Robertson has shown us a turnip, now hanging in his well-stored *cupboard*, which weighed 12 pounds, and measured *three feet* in diameter. It grew on the farm of Timothy Lovell, of Rockingham.—[Bellows' Falls Intelligencer.]

EAGLE-SHOOTING IN THE ALPS.—The peeping curiosity, staring wonder, or hostile antipathy, manifested by all day-flying birds towards owls, is taken advantage of on the continent for several purposes, but for none more interesting than that of eagle-shooting. When the goat-herds on the Alps, therefore, find their flocks diminished, and the Chamois-hunters find their sport spoiled, by the depredations of an eagle, or a lammer-gayer (*Gypaetus barbatus*, STORR), haunting a particular district, they prepare to lure him to his destruction by means of an owl. The largest species, such as an eagle-owl, (*Bubo maximus*, SIBBALD,) is always chosen, when it can be procured for this purpose, the smaller species being less likely to attract the attention of large birds. The owl is chained by the legs to a post in some conspicuous place, so as to be seen at a distance, and a hut of boughs is erected within gun-shot, to conceal the sportsman, while he lies in wait for the arrival of his game. The thrushes, jays, and magpies, in such cases, are usually the first to descry the owl, and give intimation of his presence to the ravens and hawks; the eagles, if there be any in the district, being in most instances the last to arrive. But when they do come, they are no less eager than the smaller birds to swoop down from the air to gaze at the strange bird, and to threaten him with voice and wing, for intruding himself into day-light. Then is the moment for the sportsman to level his piece, loaded of course with ball, and bring down the bird.—[Field Naturalist's Magazine.]

THE ETTRICK SHEPHERD.—The following letter, from James Hogg, the Ettrick Shepherd, was lately addressed to an American clergyman, in reply to one requesting from the poet a literary favor.

Altrive Lake, by Selkirk, June 20, 1833.

REV. SIR,—Although I have no great regard for such things as those you request of me, I am almost daily obliged to contribute to the whims of other people in these matters. A lady I have not the heart to refuse; and I have always had such a veneration for ministers of the gospel of Jesus, that I never once thought of refusing them any thing in all my life. I have never been able to find out what class of society I belong to. I sing songs and argue about religion with the shepherds, and as I have the scripture mostly by heart, I am rather a heavy neighbor for them. I drink toddy, and talk about the breeds of sheep and cattle, with the qualities of soils and wool, with my brother farmers, and with the

nobility and gentry I am most at my ease and at home, of all. In fact a poet does not belong to any class of society. But as I am sure I do not belong to the clergy, so they are the only class whom I have always regarded as above me, as holding their charter from a higher throne than that of an earthly sovereign. This brings to my mind a pleasant little anecdote, which I must relate. The Rev. Dr. Yorkston was once examining in a farm-house where I was a shepherd. He had been explaining to us who were our superiors, and whom we were to regard as our equals. Then turning to a lad, Wm. Haining, he asked him who were his inferiors? "The tinkers," quoth Will. The minister was obliged to raise both his hands to cover his face, and laugh. So if Will's sagacity could find out no class lower than himself, save tinkers, mine has never been able to discover any above me save the divines of the church.

I remain, dear sir, yours most respectfully,

JAMES HOGG.

APPLES FOR FARM STOCK.—We copy from the New-England Farmer, an article written by a man who has for years kept hogs, horses, oxen, &c. in his orchards. There are, we believe, some erroneous notions in the community on this subject. Twelve or fifteen years since, we kept, at different times, a horse, a cow, and a flock of sheep, in an orchard where there was an abundance of apples, and so far as we could judge, they all thrived and gained flesh. We have kept a milch cow where apples were all the time lying on the ground, and experienced no injury. There is some danger at first in turning hungry cattle into an orchard full of apples; but after they are accustomed to feed upon them, they will seldom, if ever, eat too many. According to our recollection, the sheep were quite as much benefitted by the apples as any other animals, but they were somewhat fastidious after apples had fallen plentifully, and ate less than before, and would not eat any of some kinds.—[Hampshire Gazette.]

AVERAGE WHEAT CROPS.—The crops of wheat, both summer and winter, have been, in this vicinity, good and abundant. The crops of wheat in England, where the cultivation is supposed to be as fine as the present improved state of agriculture can render it, the average produce of wheat is rated by Armstrong at eighteen bushels per acre, by Sinclair at twenty-two. In the interior of New-York, from the best information which I can obtain, it does not average higher than from twenty to twenty-five, or say twenty-two; and in Virginia not higher than six or seven bushels. The average crops in this part of the country, for the last two years, where it has been cultivated, have been full twenty; and while the labor of raising it is greater than on the virgin lands of the west, yet the superior value of the crop is not far from an equivalent.

The crops of wheat in Springfield, Northampton, Hadley, and lower down on the river, have been abundant and fine. In this and the neighboring towns, the crops, with some exceptions of blight, have been equally favorable; and in the single town of Northfield, in this state, where, three years since, the article was scarcely cultivated, I have heard the crops of this year rated as high as seven thousand bushels. I think this must be an over estimate; but any thing like an approach to this, or even an adequate supply for the population of the town, which is believed to be fully secured, is certainly a considerable event in our agricultural history.

THISTLE.—A very troublesome and thorny weed is extending itself over the streets of Brooklyn, and the seeds of which will be carried in the street manure to the neighboring towns. It is called the Russian Thistle, and is believed to have been introduced in the Russia hemp, as it first appeared round the ropewalks. Perhaps it may claim the attention of our street inspectors.—[Long Island Star.]

TO PREVENT DOGS FROM SUCKING EGGS.—Take of emetic tartar from four to eight grains, according to the age and strength of your dog, break the end of an egg, put in the tartar and mix it—if your dog is disposed to suck eggs, he will readily eat it. Confine him from cold water—the next day repeat the dose, which continue to do on each succeeding day until he refuses it, which will probably be the third or fourth day. After this, I never knew them to be guilty of the like offence—instead of being the destroyer of our good wives' poultry, the same dog becomes their faithful protector.—[Genesee Farmer.]

SILK.—"The Shakers, near Lexington, Ky. have commenced the raising of silk-worms, and the preparing and manufacture of silk. Some of their goods have been received at Philadelphia, and been much extolled. The Shakers are so diligent in application and patient of labor, that, if they take up this business seriously, it will certainly succeed in our country."

We have been permitted, during the past summer, to witness the process of silk culture, through all its varied and progressive stages. And it was truly a delightful privilege, for in no other way have we seen the beauties and perfections of nature's husbandry so wonderfully displayed. Though little is now known of the culture of silk, the time cannot be distant when our country will embark in a business, for the successful prosecution of which we enjoy so many facilities. It is an employment in which females and children may be pleasantly and profitably engaged. The Mulberry is easily cultivated, from indifferent soil, and is highly ornamental. But little capital is required to commence and carry on the manufacture of silk.

In July last, Mrs. Parmentier presented Mr. Cruttenden, of the Eagle, a few Cocoons, each of which produced a miller or moth. These paired, after which the females produce their eggs, and these, having accomplished the purpose of their creation, died! The eggs, after a few days exposure to a warm atmosphere, produce the silk worm, over which tender leaves of the mulberry are laid, and to which they adhere, and soon commence eating. The worm requires fresh leaves three times a day, and continues eating about thirty-two days, when, having become three inches long, it is prepared to spin its cocoon. The last process, that of spinning the cocoon, is beautiful beyond the power of description. The worm mounts upon a bush, and commences the weaving itself into a web of brilliant silken fibres, which, in the course of six or eight days, is completed, and constitutes the cocoon, from which the silk is wound. And thus, in the short space of six weeks, by means which mock all the efforts of art and science, the raw mulberry leaf is converted into rich and durable silk.—[Albany Evening Journal.]

A SKIM MILK COW.—The following incident is related to us by an old gentleman, now in his eightieth year. When President Wheelock was at the head of Dartmouth College, in the early days of college history, nearly all the students boarded with him. The milk they were served with was usually of a most meagre and blue complexion. It was tolerated for a long time, from partial necessity and good feeling towards the Præses, until at last there was some suspicion that the cream had not only been abducted, but a dash of water added, to give it elasticity. While the students were consulting measures for redress of grievances, one of them, an undaunted wag of imperturbable features, and who, withal, was a favorite of the president, volunteered to negociate a treaty. He waited a convenient opportunity, and one night, as they were seated at supper, he took the bowl in his hand, and looking at its contents (which were of a brilliant sky blue), at the same time playing with the spoon, and dashing the blue waves about, said audibly, but with all the gravity of a diplomatist, "Fellow students, I propose that we make up a purse, and purchase the president's *old skim milk cow*." The whole table was convulsed with laughter, in which the president heartily united. The hint was timely, and the skimmer dish lost its office.—[Boston Transcript.]

SCRATCHES OR SLENDERS.—To the inquiry of a subscriber, after a remedy for this disorder, it is replied, that writers of reputation on the veterinary art consider scratches or slenders in horses as not likely to be troublesome, except in the winter season. Where the disease has become habitual, and so inveterate as to trouble the animal, in the grazing season, a dry pasture, and shelter from rainy weather, with frequent hand-rubbing of the legs, and washing the heel with soap-suds, is considered the best remedy. If this prove ineffectual, bleeding, rowelling on the inside of the thigh, or on the belly, and the antimonial balls, are recommended.—[Northern Farmer.]

WATER IN FARM YARDS.—The author of Husbandry in Scotland is of opinion that when cattle are fed in winter on dry food, as hay or straw, no expense should be spared in supplying them with a sufficient quantity of water. It has been ascertained that a bullock feeding upon straw, having water at command, will drink of it eight times a day; hence it is evident that he cannot get enough, if only driven twice a day to an adjoining stream or pond. It is therefore, advisable, where it can be done, to bring water into a cistern in the fold yard, to which the cattle may go whenever they are in want of it. The cistern may be made of rough masonry, and consequently would not be expensive. There can be no doubt that cattle would improve much more rapidly, more especially on coarse fare, when thus supplied with water, than if they were only occasionally driven to it.—[Goodsell's Genesee Farmer.]

SINGULAR SPECIES OF CORN.—We have now in our office, (where our citizens and farmers are requested to call and see it,) a most singular species of corn. The history of this rare freak of nature is substantially as follows. About three years ago, Mr. Carrico, living in Gallatin county, Kentucky, planted some of the common Indian corn in the neighborhood of a swampy piece of land, which was grown over with a thick strong grass resembling *sedge* grass. In the fall of the year, when he was gathering his corn, he was surprised to find that ears of corn were growing and ripening upon the grass, and that on the blades of the grass separate grains were growing. Struck by the singularity of the circumstance, he carefully preserved the grains, and planted them in the next spring. The result was extraordinary, producing a growth partaking of the qualities both of the grass and the corn, and superior to both as forming a third article very advantageous to stock farmers. The stalks in our office present most remarkable appearances.

The *tassel* does not bear any resemblance to the *corn tassel*, but is more like the heads of coarse grass, the blades are long and very tender, resembling more of blades of oats than of corn. Upon the extremities of these blades separate grains of corn enclosed in a husk, presenting the appearance of hazel nut burs, are found, and to the bodies of the stalks more perfect ears of corn are attached. The stalks themselves are long and slender, and not unlike the wild rye of the country, only stronger and more substantial. We believe that this grain is at least one new thing under the sun, and, unlike most novelists, it promises to be useful.—[Commonwealth, Frankfort, Ky.]

ALBANY CATTLE FAIR.—We recommend to our readers the following circular. It sets forth the advantages of Agricultural Fairs. We hope every person who reads it will feel it a privilege to do something to promote the objects of the State Society:

The New-York State Agricultural Society recommended, at their last meeting, that a Cattle Fair be held at Albany, in the present month of October. Many inquiries having been made in relation to this subject, I ask leave to reply, and to notify the public generally, through the columns of the Argus, (in addition to the official notice which will appear from the Secretary,) that a Fair is appointed to be held at Albany, on the *last Thursday of October*, inst. and that the common council of the city have directed adequate accommodations to be provided for all who may attend. The arrangements and regulations for the fair will in due time be published.

The objects of the State Society in instituting annual fairs, or in recommending this as an experiment, are

1. By congregating sellers and buyers at a central point, to lessen expense to the parties, and insure fair prices.

2. By inviting the exhibition of superior animals and improved breeds, and exhibiting the contrast which these offer to ordinary farm stock, to awaken a laudable spirit of improvement in this important branch of husbandry.

3. To enable those who are already disposed to improve their stock, to find the animals they want. And

4. To bring into notice new implements of husbandry, choice agricultural seeds, and such other productions of the farm and of household labor as are worthy of public attention.

Cattle Fairs have proved highly beneficial, and are acquiring new interest and importance wherever they have been established. They are not only found to be beneficial to the dealers, but to the community at large; and have contributed, in no small degree, in the districts where they have been held, to a manifest improvement in farm stock. These advantages are now proffered to the farmers of New-York. If the approaching fair is sustained by those whom it is intended to benefit, its advantages, I trust, will become apparent to all. If not sustained by them, I need not say that the attempt will not probably soon be renewed. There is reason to believe, however, from the inquiries which have been made, that it *will be sustained*. It is by the congregation of drops that rivers are formed which propel powerful machinery. It is by the union and concert of individuals alone that we are to expect success in this undertaking.

The appeal is therefore earnestly made to all who are interested in the permanent establishment of cattle fairs—to the farmer, who has live stock, choice seed, or other produce of his labor, to sell—and to him that wishes to buy—to the drover, and the grazier, the butcher, and the machinist—to unite in giving respectability and eclat to the approaching fair.

As it is desirable to have a printed descriptive list of the neat cattle, horses, sheep and swine, which will be offered for sale or exhibition, with a reference to the number of the pens in which they are respectively enclosed, on the morning of the fair, it is respectfully requested that gentlemen will communicate the needed information, as far as may be convenient, at least two days before the fair, to C. R. Webster, Esq. of Albany.

J. BUEL,
Prest. N. Y. S. Ag. Soc.

Oct. 1, 1833.

BERKSHIKE CATTLE SHOW.—I was among the many strangers who devoted two or three days to attend the recent anniversary of the Berkshire Agricultural Society. It was the *twenty-second* anniversary. As I had attended several of its meetings before, and one in the infancy of the society, my attention was particularly drawn to the evidences of improvement which had been developed by its influence. These were manifest in the highly improved appearance of the farms, farm stock, farm buildings, and farm crops; but still more apparent in the moral and intellectual condition of the population. The interests of the society seemed to be identified with the interests of all classes; and all appeared to be solicitous for its prosperity and perpetuity, as though with the prosperity of their schools, (another subject of just pride) it redounded to their personal credit, and to the aggrandizement of their county.

Among the thousands assembled on the occasion, I beheld many of the reverend clergy, many other gentlemen of the learned professions, who are generally more or less engaged in husbandry, and merchants and manufacturers. Each class, and each sex, of society, appeared to be fully and well represented; all vied in giving interest and eclat to the occasion. The assemblage of ladies at the church, at the young ladies' fair, and at the ball room, was numerous and brilliant, and contributed in no small degree to diffuse a charm of good nature and kind feelings among the crowd. The exercises at the church were impressive and highly interesting. The dinner tables were surrounded by nearly two hundred persons, mostly husbandmen, highly respectable in their dress and their deportment. Hilarity presided at the festive board, regulated by the genius of temperance and the reverend clergy. I did not see a man, woman, or child, who I thought had been intemperate in drinking or in eating. All seemed to be good-natured, cheerful and gay. On the whole, I was highly pleased and instructed, and became a full convert to the belief, that the society had more than realized the high expectations of its founders.

I love old Berkshire, for her early and persevering efforts to improve the *soil* and to enlighten the *mind*—objects most worthy of our ambition, and most ennobling to our nature; and I rejoice, most ardently rejoice, in the abundant rewards she is now realizing for these efforts—in the intelligence, industry and enterprize, in the prosperity and happiness, of her sons and daughters. In the enjoyment of these blessings she is not surpassed by any. She has expended annually $1200 (one half from the state treasury) in rewards for agricultural and household skill and industry; and this expenditure has been to her like seed sown in a good soil, yielding in return its fifty and its hundred fold. May her example yet have its influence upon the country around her.—[Albany Argus.]

AGRICULTURAL FAIR OF MONROE COUNTY.—It will be seen by this day's paper, that the spirited farmers of this county are resolved on establishing fairs, for the sale and exchange of all kinds of stock and agricultural products. Particular days of sale for particular kinds of goods have been found of much importance in all the large towns of Europe, and we doubt not, but if once established in this country, they would be found beneficial to the farming interest.

One great advantage resulting from fairs is, that by exposing large quantities of a given article, at the same place, and its being previously known, that purchasers will meet from different parts of the country, a fair competition will be produced.

It is not to be expected that every farmer will at all times be sufficiently acquainted with the market to know the price of every article he has to offer for sale, and when he depends upon the statement of single purchasers he is often deceived; but when many articles of the same kind are in market at the same time, and many purchasers are present, the price is soon known by all.

The object with farmers attending the contemplated fair and exhibition, should not be so much to obtain premiums, which, from the situation of the funds, must necessarily be small, as to examine and compare their own with their neighbors' produce, to ascertain, by comparison, what breeds of domestic animals are best calculated for profit, what course of cultivation and rotation of crops are best adapted to our soils—in short, to profit by having the produce of the different parts of the country so arranged, that they may be inspected by a single glance, and having the operators ready to be inquired of concerning any particular process, which has either proved abortive or particularly successful. Another advantage attending the assemblage of people engaged in the same business is the cultivation of social intercourse between those from different parts of the country, many of whom, in the common causes of business, perhaps, might never have the pleasure of being acquainted with each other.

There is one subject which should be discussed at the general meeting of the farmers, that is, to establish a uniform price of land upon those known principles which govern prices in other countries, and in some parts of our own. When we mention uniform prices, we mean corresponding prices according to the net profits of lands when under a similar course of cropping.—[Goodsell's Genesee Farmer.]

EFFECTS OF ELECTRICITY ON PLANTS.—Many experiments in electrifying plants have been made by M. Nuneberg and the Abbe Nollet. According to the reports of the former, most of them increased in height, and flourished far beyond others not electrified. Some bulbous roots, he says, which had been frequently electrified, grew eighty-two lines and a half, whilst others of the same species, not electrified, grew only fifty-two lines and two-thirds. But the report of Abbe Nollet is not so favorable; he found that the plants electrified by him made vigorous shoots at first, but he thought the perspiration being, by these means, too much increased, their juices were too quickly dissipated. Hence the plants became gradually weaker, and at length prematurely perished. We yield due credit to both these reports, though they seem in some measure incompatible with each other. It is possible the experiments were made on various plants, at different seasons.—[Horticultural Register.]

OATS.—We published in our last an article from the N. E. Farmer, stating that Mr. Smith, of Duxbury, had raised this season an "unprecedented crop" of 74 bushels and 3 pecks of oats, from four-fifths of an acre, or 93 bushels to the acre. James Kent, Esq. of West Springfield, has this season raised, upon an acre only, one hundred bushels.—[Springfield Republican, Sept. 14, 1833.]

ICE HOUSES.—This is the season for erecting these useful houses, very desirable to farmers, as well as to others of leisure and wealth.

The New-York American contains directions "as to the best mode of constructing an ice house that will keep ice through the season." The method suggested is the one most in use in the neighborhood of Boston, where it has been made a subject of *scientific* inquiry.

Directions.—It must be a tight frame building, and *above* ground, the four sides of which should have an inside lining, fifteen inches apart, the intermediate space filled with tan; the floor, which should be dry ground, covered with the same material to the depth of about fifteen inches, the attic should have a board flooring, with a scuttle door for entrance, also covered with tan, say about five to six inches; over the whole, a good *tight* roof, with an entrance to the attic through the gable end.

CLOVER MACHINES.—Farmers, who have Threshing Machines in operation at their barns, may, with a little expense, put a clover mill in operation by the same horse power. A cylinder of the same length as the one used for threshing grain, covered with sheet iron, punched full of holes like a grater, revolving within

a concave of the same description, will answer all the purpose of a more expensive machine. By passing the clover chaff, after it has been threshed from the straw, through this machine, the chaff is ground fine, and may be separated from the seed by the common fanning mill.—[Goodsell's Genesee Farmer.]

Dry Rot.—The 9th No. of the London Quarterly Review contains an excellent article on this subject. The application of corrosive sublimate to the wood is found to be a preventative, and, consequently, adds greatly to the durability of timber.

Hops in England.—By the arrival of the Liverpool packet, John Jay, we learn that a disastrous storm occurred on the 30th of August and 1st September, by which great damage was done to the hops, causing them to increase in price.

Legacy to Farmers.—Gideon B. Smith, Esq. in resigning the editorship of the American Farmer, observes, that had he the power to leave a legacy to the agricultural community, the most valuable one would be a DESIRE TO READ, and the means of providing themselves with agricultural papers. There is something beautiful and truly philanthropic in this bequest.

Silk Cocoons.—Mr. Orrin Tinkham, of Anson, Me. states in the Maine Farmer, that he found 310 cocoons, after the floss was taken off, to weigh one pound. Estimating the cocoons at the same price per pound as wool, he supposes 100,000 worms will produce as many pounds of cocoons as 100 sheep of wool, and at about one third the expense.

Silk Machine—Cocoons—Silk Worms.—Mr. Adam Brooks, in a letter to the Editor of the New-York Farmer, says, in speaking of his silk apparatus, "I do not reel it all before it is twisted into warp or filling, or doubled and twisted into sewing silk, or for other uses, of any size or twist that may be wanted—perfectly even, firm, smooth, and strong, as any that can be produced from any part of the world." His machines cost from $20 to $30. They can be had at the New-England Farmer office, Boston, and arrangements will probably be made to furnish them at the Agricultural Warehouse. 87 Washington street, New-York.

One thousand good cocoons will make one pound of wrought silk. The quality of cocoons is ascertained by their firmness—the thicker they are the better. Mr. B. gives three dollars per bushel. The least incision makes them useless for ordinary purposes. It would seem a safe calculation, therefore, that 2000 worms, well attended, would produce one pound of silk —1,000,000 worms, 500 pounds, = at $5 per pound, $2,500. When well reeled, it commands from 6 to 10 dollars per pound. The labor required to attend 1,000,000 worms would be, the first week, two persons; for the second, four; for the third, eight; for the remaining two, fifteen to twenty. Most of these persons may be boys, girls, or aged women. Mr. Smith, of Baltimore, estimates, from experience, that a full grown tree will feed 5,000 worms. But to guard against accidents, suppose it furnishes leaves for only 2,000, then 500 trees will be required. This number may be set out along the fences and about the dwelling, of almost every farm in the country; or the requisite quantity of leaves may be obtained from mulberry hedges. The requisite apartments for 1,000,000 of worms are equal to a room 40 by 80 feet. Considering the above facts, what farmer can hesitate to purchase mulberry plants this fall?

Shortening Roots.—Seedling plants, that are designed to be removed, should be taken up, either in the fall or spring, and set out preparatory to their final transplantation, in order to cut off their long deeply-penetrating roots, and cause them to send out a greater number near the stem. In case it is not convenient to take them up, cut off the top and long horizontal roots, by thrusting in the spade, without lifting the plants. If done in the fall, they can be the more safely transplanted in the spring.

Basil, *Ocymum basilicum*.—The whole genus, and this species in particular, was held in great abhorrence by the ancients. Pounded and put under a stone, it was said to breed serpents. An Italian, on the authority of Hollerus, had a scorpion bred in his brain, by repeatedly smelling of the herb. Diodorus states that eating of it would engender insects in the body. The plant is now cultivated for domestic purposes.

Eclipse.—The celebrated horse Eclipse is now in his 20th year. The half of him was recently bought by Col. W. R. Johnson, for $4500.

Death of Sir Charles.—The October No. of Skinner's Turf Register contains an account of Col. Johnson's Sir Charles. He died of the grubs or botts, after an illness of twelve hours. His agony was so great that his groans might be heard the distance of a mile. The day before he was taken sick, his owners, Messrs. Johnson and Craig, would not have taken for him less than $12,000 to $15,000.

Distemper in Cattle.—A writer in the Farmer's Register advances the opinion, supported by facts, that cattle, once having this disease, will continue to give it to other cattle even after they are supposed to be cured.

Leaves: Topping Corn.—The growing condition of a plant cannot be sustained without the leaves. Through the aid of light and heat, they elaborate the sap as long as it continues to ascend. When the vessels of the petiole or leaf-stalk become so rigid and obstructed that the sap cannot pass through them, the leaves become no longer necessary, and fall off. Corn should not either be topped nor cut up at the roots, until the leaves begin to indicate this rigidity or hardness, which shows that their active operation is decreasing. The following, from the Genesee Farmer, is in point:

Many of our plum trees, from causes which we shall not now stop to investigate, shed their leaves entirely in August. The effect of this premature defoliation has been, not only to stop the growth of wood, but to suspend the maturing of the fruit, where it had not already been gathered. The plums have not since increased in size, nor improved in flavor, otherwise than they would have done if plucked, and laid in the sun. The plain inference is, that the leaves are as indispensable to the growth and perfect maturity of the fruit, as they are to the enlargement and extension of the wood. The fact applied to corn must show that the practice of topping it, before the grain is matured, is manifestly bad—as it can gain nothing after it is deprived of the upper leaves, which are destined to supply it with food.

Wheat from Russia.—The following circular from Messrs. H. Gates and Co. exhibits a striking instance of that mercantile knowledge and commercial enterprize which render the resources of the whole globe tributary to the wants of civilized man:

Montreal, 4th October, 1833.

Sir,—Having, by short written circulars, under dates of 22d August and Sept. 30th, addressed many of our customers and friends in the United States, who are particularly interested in the flour trade, in which we held out rather favorable prospects for States flour in this market; we, therefore, consider it an imperative duty to mention a circumstance just come to our knowledge, which has already the effect to depress American flour, and must operate very much against any improved demand, and we find it so difficult to make progress in sales, at satisfactory prices, that we cannot, with propriety, recommend any further supplies being sent. The circumstance alluded to is the arrival of about 40,000 bushels of wheat, direct from Archangel, which goes immediately into the hands of the millers, to be ground up for consumption; and one or two more cargoes are expected. Considerable supplies of flour have recently arrived from the western part of New-York, and Ohio, which, in the absence of shipping demand for this description, tends also to depress the price.

Canada flour is in fair demand at 29 *a* 30 for fine, and 31 S. F. for shipment to England, and U. C. White wheat 6s. 3d. *a* 6s. 4d. and red 5s. 9d. *a* 6s. the 60 lbs.

On the Colors of Flowers.—A purple Columbine or blue Larkspur, held over a lighted match, changes first to pink, and then to black. The usual varieties of these flowers are blues, reds, and whites. The yellow of other flowers continues unchanged, and the same is true of the green color of leaves. The primrose, winter aconite, yellow crocus, furze blossom, and daffodil, all remain unchanged; but every other color instantly disappears. If a scarlet, crimson, or marrow dahlia be tried, the color changes, not to white, but to yellow, a fact known to many persons, who thus variegate their growing dahlias.—[Horticultural Reg.]

Pickled Cucumbers.—To each hundred of cucumbers put a pint of salt, and pour in boiling water sufficient to cover the whole. Cover them tight to prevent the steam from escaping, and in this condition let them stand for twenty-four hours. They are then to be taken out, and after being wiped perfectly dry, care being taken that the skin is not broken, placed in the jar in which they are to be kept. Boiling vinegar (if spice is to be used, it should be boiled with the vinegar,) is then to be put to them, the jar closed tight, and in a fortnight delicious hard pickles are produced, as green as the day they were upon the vines.—[N. E. Farmer.]

Chloride of Soda.—A singular case of a severe burn cured by the use of a solution of the chloride of soda, is recorded in the London Lancet. An attorney, in attempting to put out the flames that had attacked the curtains of his bed, had got his hands burned —blistered, but not broken. He sent for a couple of quarts of the lotion, (4 oz. of the solution to a pint of water,) had it poured into soup plates, wrapped his hands in lint, as no skin was broken, and so kept them for some time. Next morning he was so perfectly well that only one small dried patch of burn remained; yet an hour and a half had elapsed before the application. The same solution has been equally effectual in scalds and bruises. It never fails almost immediately to heal a "black eye." When the chloride is used for scalds, it is necessary to use with it in the after applications some spermaceti oil.—[Philadelphia Sentinel.]

themselves of it, to enable the force of gravity to relieve them from some portion of their labor. The inclined planes which they have established in various forests, by which the timber has been sent down to the water-courses, must have excited the admiration of every traveller; and these slides, in addition to the merit of simplicity, have that of economy, as their construction requires scarcely any thing beyond the material which grows upon the spot. Of all these specimens of carpentry, the Slide of Alpnach was by far the most considerable, both from its great length and from the almost inaccessible position from which it descended. The following is the description of that work given in Gilbert's Annalen, 1819, and translated in the second volume of Brewster's Journal:

"For many centuries, the rugged flanks and the deep gorges of Mount Pilatus were covered with impenetrable forests. Lofty precipices encircled them on all sides. Even the daring hunters were scarcely able to reach them; and the inhabitants of the valley had never conceived the idea of disturbing them with the axe. These immense forests were therefore permitted to grow and to perish, without being of the least utility to man, till a foreigner, conducted into their wild recesses in the pursuit of the chamois, was struck with wonder at the sight, and directed the attention of several Swiss gentlemen to the extent and superiority of the timber. The most intelligent and skilful individuals, however, considered it quite impracticable to avail themselves of such inaccessible stores. It was not till November, 1816, that M. Rupp, and three Swiss gentlemen, entertaining more sanguine hopes, drew up the plan of a slide, founded on trigonometrical measurements. Having purchased a certain extent of the forests from the commune of Alpnach for 6,000 crowns, they began the construction of the slide, and completed it in the spring of 1818.

"The slide of Alpnach is formed entirely of about 25,000 large pine trees, deprived of their bark, and united together in a very ingenious manner, without the aid of iron. It occupied about 160 workmen during 18 months, and cost nearly 100,000 francs, or £4,250. It is about 3 leagues, or 44,000 English feet long, and terminates in the Lake of Lucerne. It has the form of a trough, about six feet broad, and from three to six feet deep. Its bottom is formed of three trees, the middle one of which has a groove cut out in the direction of its length, for receiving small rills of water, which are conducted into it from various places, for the purpose of diminishing the friction. The whole of the slide is sustained by about two thousand supports; and in many places it is attached, in a very ingenious manner, to the rugged precipices of granite.

"The direction of the slide is sometimes straight, and sometimes zig-zag, with an inclination of from ten to eighteen degrees. It is often carried along the sides of hills and the flanks of precipitous rocks, and sometimes passes over their summits. Occasionally it goes under ground, and at other times it is conducted over the deep gorges by scaffoldings 120 feet in height.

"The boldness which characterizes this work, the sagacity displayed in all its arrangements, and the skill of the engineer, have excited the wonder of every person who has seen it. Before any step could be taken in its erection, it was necessary to cut several thousand trees to obtain a passage through the impenetrable thickets; and, as the workmen advanced, men were posted at certain distances, in order to point out the road for their return, and to discover, in the gorges, the places where the piles of wood had been established. M. Rupp was himself obliged, more than once, to be suspended by cords, in order to descend precipices many hundred feet high; and in the first months of the undertaking, he was attacked with a violent fever, which deprived him of the power of superintending his workmen. Nothing, however, could diminish his invincible perseverance. He was carried every day to the mountain in a barrow, to direct the labors of the workmen, which was absolutely necessary, as he had scarcely two good carpenters among them all—the rest having been hired by accident, without any of the knowledge which such an undertaking required. M. Rupp had also to contend against the prejudices of the peasantry. He was supposed to have communion with the devil. He was charged with heresy, and every obstacle was thrown in the way of an enterprize which they regarded as absurd and impracticable. All these difficulties, however, were surmounted, and he had at last the satisfaction of observing the trees descend from the mountain with the rapidity of lightning. The larger pines, which were about a hundred feet long, and ten inches thick at their smaller extremity, ran through the space of *three leagues*, or nearly *nine miles, in two minutes and a half*, and during their descent they appeared to be only a few feet in length. The arrangements for this part of the operation were extremely simple. From the lower end of the slide to the upper end, where the trees were introduced, workmen were posted at regular distances, and as soon as every thing was ready, the workman at the lower end of the slide cried out to the one above him, "*Lachez*" (Let go). The cry was repeated from one to another, and reached the top of the slide in three minutes. The workman at the top of the slide then cried out to the one below him, "*Il vient*" (It comes), and the tree was instantly launched down the slide, preceded by the cry which was repeated from post to post. As soon as the tree had reached the bottom, and plunged into the lake, the cry of *Lachez* was repeated as before, and a new tree was launched in a similar manner. By these means a tree descended every five or six minutes, provided no accident happened to the slides, which sometimes took place, but which was instantly repaired when it did.

"In order to show the enormous force which the trees acquired from the great velocity of their descent, M. Rupp made arrangements for causing some of the trees to spring from the slide. They penetrated by their thickest extremities no less than from eighteen to twenty-four feet into the earth; and one of the trees having by accident struck against the other, it instantly cleft it through its whole length, as if it had been struck by lightning.

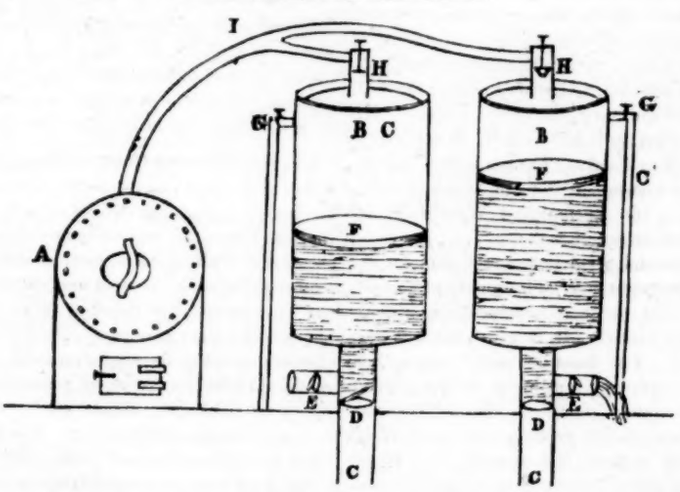
"After the trees had descended the slide, they were collected into rafts upon the lake, and conducted to Lucerne. From thence they descended the Reuss, then the Aar to near Brugg, afterwards to Waldshut by the Rhine, then to Basle, and even to the sea, when it was necessary.

"In order that none of the small wood might be lost, M. Rupp established in the forest large manufactories of charcoal. He erected magazines for preserving it when manufactured, and had made arrangements for the construction of barrels for the purpose of carrying it to the market. In winter, when the slide was covered with snow, the barrels were made to descend on a kind of sledge. The wood which was not fit for being carbonized, was heaped up and burnt, and the ashes packed up and carried away, during the winter.

"A few days before the author of the preceding account visited the slide, an inspector of the navy had come for the purpose of examining the quality of the timber. He declared that he had never seen any timber that was so strong, so fine, and of such a size; and he concluded an advantageous bargain for a thousand trees.

"Such is a brief account of a work undertaken and executed by a single individual, and which has excited a very high degree of interest in every part of Europe. We regret to add that this magnificent structure no longer exists, and that scarcely a trace of it is to be seen upon the flanks of Mount Pilatus. Political circumstances having taken away the principal source of the demand for timber, and no other market having been found, the operation of cutting and transporting the trees necessarily ceased."

Professor Playfair, who visited this singular slide, states that six minutes was the usual time occupied in the descent of a tree; but that, in wet weather, it reached the lake in three minutes.



STEAM PUMP.—A, the boiler; B C and B, two condensers; C C, large tubes (two), through which the water is drawn into the condensers; D D, valves to prevent the water from returning; E E, valves, which act alternately, to prevent the air from passing in, and allow the water to pass out; F F, two wooden floats, that remain on the surface of the water, to prevent the steam acting on the water; G G, two small pipes, through which cold water passes to condense the steam; H H, steam valves, to admit and shut off the steam; I, steam pipe.

This drawing represents a newly invented machine, which we have witnessed in operation on a small scale. The object of it is to raise water, by forming a vacuum in the cylinders, by admitting a quantity of steam sufficient to supply the place of atmosphere (or rather of atmospheric pressure), and then condensing, which causes the cylinder to fill with water, and is discharged immediately when full; it is then filled with steam again, and the operation repeated, so that a continual water power is thus produced on an economical plan, both as regards the structure of the machinery and the saving in water. We think it important, and should be highly gratified to receive the opinions of any of our scientific correspondents on the subject.

Of the Orders of Architecture. [Continued from page 282.]

Composite Order.—The Composite Order is the last of the five orders of columns: so called because its capital is *composed* out of those of the other orders.

It borrows a quarter round from the Tuscan and Doric; a double row of leaves from the Corinthian; and volutes from the Ionic: its cornice has simple modillions, or dentils.

The *composite* is also called the *Roman* and *Italian* order, as having been invented by the Romans; conformably to the rest, which are denominated from the people among whom they had their rise.

Most authors rank this after the Corinthian, either as being the richest, or as the last that was invented: Scamozzi alone places it between the Ionic and Corinthian, out of a view to its delicacy and richness, which he esteems inferior to that of the Corinthian; and, therefore, makes no scruple to use it under the Corinthian, wherein he is followed by M. le Clerc. The proportions of this order are not fixed by Vitruvius; he only marks its general character, by observing, that its capital is composed of several parts taken from the Doric, Ionic, and Corinthian: he does not seem to regard it as a particular order; nor does he vary it at all from the Corinthian, except in its capital. In effect, it was Serlio who first added the *composite* order to the four of Vitruvius, forming it from the remains of the temple of Bacchus, the arches of Titus, Septimus, and the Goldsmiths, at Rome: till then, this order was esteemed a species of the Corinthian, only differing in its capital.

The order being thus left undetermined by the ancients, the moderns have a kind of right to differ about its proportions, &c. Scamozzi, and after him M. le Clerc, make its column 19 modules and a half; which is less by half a module than the Corinthian. Vignola makes it 20, which is the same with that of his Corinthian; but Serlio, who first formed it into an order by giving it the proper entablature and base, and after him M. Perrault, raised it still higher than the Corinthian.

This last does not think different ornaments and characters sufficient to constitute a different order, unless it have a different height too; agreeably, therefore, to his rule of augmenting the heights of the several columns by a series of two modules in each, he makes the *composite* 20 modules, and the Corinthian 18; which, it seems, is a medium between the porch of Titus and the temple of Bacchus.

M. Perrault, in his Vitruvius, distinguishes between composite and composed order. The latter, he says, denotes any composition whose parts and ornaments are extraordinary, and unusual; but have, withal, somewhat of beauty, both on account of their novelty, and in respect of the manner or genius of the architect: so that a *composed* order is an arbitrary, humorous, composition, whether regular or irregular.

The same author adds, that the Corinthian order is the first composite order, as being composed of the Doric and Ionic, which is the observation of Vitruvius himself.

Gothic Architecture.—After having described the five Orders, it will naturally be expected that we should say something of the *Gothic* style; we shall therefore give a general view of the distinguishing features of this species of architecture.

The attention to Gothic architecture having only been lately revived, the practice has not hitherto been digested into so systematic an order as the Greek or Roman; and it is not a little extraordinary, considering that during the ages in which it was extensively practised, its operations were directed by men of science and literary habits, that no written rules have been discovered in the religious houses which were then the only depositories of knowledge. This has led Mr. Knight, and other men of observation, to assert, that each architect proceeded independently of rules, and worked in the manner which to him appeared best calculated to produce a striking effect, and that it was in consequence of the absence of determined rules, that this school rose to the degree of sublimity it attained. This is denied by other able and enlightened men, who have paid much attention to the subject, especially Dallaway, Milner, and Hawkins, who maintain, that although few arranged rules and proportions have been published in books, yet architects and workmen were constantly guided by known rules, agreeably to the prevailing mode. It is evident, although not so rigidly confined as the Egyptian, that the Gothic architects were fully as much limited as the Roman; for the contrast between the massy Norman style, and the latter, or florid Gothic, is not greater than what was produced by varying from the plainness, simplicity, and oblong forms of the ancient Greek temples, to the circular, delicate, and highly ornamented edifices of the late Roman.

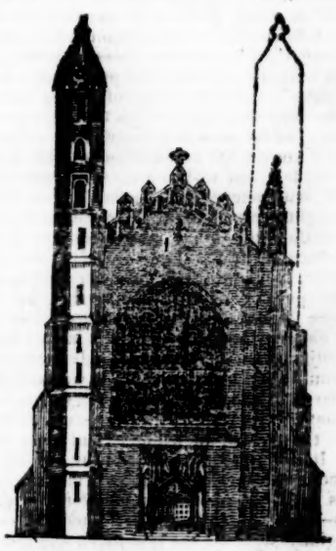
The Gothic style having been employed almost exclusively in edifices appropriated to the purposes of the Christian religion, the outlines of the ground plan have almost uniformly been a cross. In the Greek and Roman oblong temples, the ratio of the length and breadth was determined by the number of columns placed at nearly equal distances along the ends and sides, while that of the height was regulated by the diameter of the column; but in Gothic, where seldom any columns have been placed on the outside of the edifice, and the use of arches proving a relief from constraint within it, it is alleged that the proportion of the length to the breadth has been determined by triangles and squares. Of this, Mr. Hawkins, in his History of the Origin and Establishment of Gothic Architecture, (chap. 10,) has produced an early instance from Cæsar Cæsarianus, a celebrated architect of Milan, who, in an elaborate commentary annexed to his translation of Vitruvius, has explained the principles of Gothic architecture.

With regard to the form of the *essential parts*, they are mostly defined in the following description of the three orders of architecture, as given by Dr. Milner:

The *first order* is characterized during its formation—that is to say, till near the latter end of the 12th century,—chiefly by its acute arch (its pillars and other members being frequently Saxon); but after its formation, not only by the narrowness and acuteness of its arch, but also by its detached, slender shafts, its groining of simple, intersecting ribs, its plain pediments without crockets or side pinnacles, and its windows, which were either destitute of mullions, or have only a simple, bisecting mullion, with a single or triple trefoil, quatrefoil, or other flower, in the head of them. Of this order are the east end of Canterbury, the west end of Lincoln, and the whole of Salisbury Cathedrals, besides the transepts of York Minster and Westminster Abbey.

The *second order* is marked, not only by the fine turn of its perfect equilateral arch, but also by the cluster columns, being, for the most part, formed each course out of the same stone; by the elegant, but not over-crowded tracery of its windows and groining, by its crocketted pinnacles, tabernacles, and pediments, the latter of which, towards the conclusion of the fourteenth century, were made with an ogee sweep towards the arch they covered. To this order belong the nave of Westminster Abbey, the nave and choir of York Minster, the naves of Winchester, Exeter, and Canterbury Cathedrals, Wykeham's two colleges, St. Stephen's Chapel, &c.

The *third order* is known, not only by the flatness of the point of the arch, but also by its numerous, large, and low descending windows, together with the multiplicity and intricacy of its tracery; by its pendents from the roof; by the minuteness and profusion of its ornaments, both exteriorly and interiorly; by its fan-work and numerous shields and devices on the ceiling. To this order belong St. George's Chapel, Windsor, King Henry the Seventh's Chapel, Westminster, and King's College Chapel, Cambridge, of which the following is an eleva



tion, showing on one side the buttresses, the tower being supposed to be removed, and on the other the tower, which not only supplies the place of a buttress at the end, but assists also in supporting a considerable por-

AGRICULTURAL SCHOOL—*Circular to the Corresponding Committee of the New-York State Agricultural Society.*—At a meeting of the Executive Committee of the New-York State Agricultural Society, held at Albany, the 13th of September last, it was resolved that the Corresponding Secretary cause to be printed 200 copies of the report made in Senate by Mr. Sudam, at the last session of the legislature, recommending the establishment of an Agricultural School, and that he forward the same, together with a copy of the report made in Assembly, by Mr. Skinner, for the encouragement of agriculture; and that he accompany said reports with a circular, requesting the special attention of said committee to the objects embraced in them; and that petitions in furtherance of these objects be got up and circulated by said committee for signatures, and forwarded to John F. Bacon, Esq. of the city of Albany, that they may be presented to the legislature of this state at its next session.

"*Resolved*, That the corresponding secretary forward to the printer of at least one newspaper in each county, in this state, a copy of the Reports of Mr. Sudam and Mr. Skinner, in the Legislature, recommending legislative provisions to be made for the encouragement of Agriculture, with the request that the same be published in their respective papers, with the view of bringing the subject they embrace before the public at large."

In compliance with the above resolutions, I send you a paper containing the reports alluded to, as the cheapest and most eligible mode for distribution. We trust you will give them that attention which their intrinsic importance demands, and, if necessary to carry the first resolution into effect, call to your aid such intelligent and enterprizing farmers as take an interest in the advancement of their own occupation.

JOHN P. BEEKMAN,
Corresponding Secretary of the New-York State Agricultural Society.

Kinderhook, Sept. 11, 1333.

FORM OF PETITION.

To the Honorable the Legislature of the State of New-York:

We, the undersigned, your petitioners, being inhabitants and freeholders of the county of ———, do respectfully represent to your honorable body, that taking a deep interest in the successful cultivation of the soil, and thinking that much may yet be done to improve it, would pray that legislative provision be made for the establishment of an Agricultural School, to be located in some portion of this state. We firmly believe that an institution where all the elementary principles of successful farming are taught both theoretically and practically, would materially aid a large body of young men to become well acquainted with the principles of farming, as far as it is yet advanced as an art; that the knowledge so obtained would, in after life, enable them to bring those sciences, connected with successful husbandry, to throw more light upon their peculiar occupation, and thus farther improve it; and these young men, thus educated, by settling in different portions of the state, would not only diffuse a greater taste for the pursuit of Agriculture, but by their practice would impart the information they have collected to the benefit of a large class of our citizens. Great as these advantages are, we would soon see that greater would follow; that farming so systematically and scientifically conducted, would confer benefits which would be felt throughout the whole extent of our country. It would much enhance our wealth, and as a consequence we should have better houses, roads and bridges,—better public accommodations—better horses, cattle and sheep It would materially increase the quantity, and improve the quality, of the several kinds of grain, and give us a greater variety of culinary vegetables. It would aid our manufactories, and enable us to give full and varied employment to our mechanics. It would largely add to the revenue derived from our public works and canals, and increase to a vast amount the sum of our exports, and lessen our imports. It would add to our means to make education more perfect; and finally, it would be another example to the confederacy, that the great state of New-York, who, as she was the first to engage extensively in internal improvements for the benefit of her citizens, intends still to follow in the path of glory, and add another leaf to her fame, by raising another monument to her intelligence and enterprize, as she would be the first to establish an Agricultural School, to the great benefit of her industrious population.

PLANTING AND PRUNING FOREST TREES.—I am a very old planter, one of the oldest, I believe, in Hampshire, and I challenge any of the king's planters in the New Forest, for success and good management. I never prune my trees at all, but leave them to nature. My plan is first to trench and drain the ground, which is to be planted. I then plant the trees pretty close, after which nothing more is required than to attend carefully to thinning out the nurses, when they become too rank.—[Horticultural Register.]

GATHERING APPLES.—Apples for late keeping should be gathered before over ripe, and before the hard frosts of autumn. They should be hand picked, and if the quality is such as to allow it, they should be spread upon floors or straw, and not allowed to lie more than two or three deep. Some require to be gathered sooner than others. The apple known in this section by the name of *pound Sweeting* should be gathered as early as the last week in September, otherwise they will become "water cored," as it is called. If gathered early this will be prevented, and they may be kept until February or March, and will be found excellent for the table, and for baking we do not know of an apple equal to them. If apples can be so exposed as to become a little shrivelled before they are put in the cellar, they will keep the better for it. When put in the cellar they should not be allowed to lie too thick. Apple bins should be so arranged that floors can be laid one above another, at a distance of about two feet. The floors should be laid with narrow boards, and the cracks left at least two inches wide, to allow the air to pass through the apples freely, which will carry off the moisture produced by evaporation. Those who would carry apples, pears, quinces, or peaches, to market, should pack them in chaff, or fine grass of second growth: a layer of fruit and a layer of grass. In this manner fruit may be delivered fresh and sound, and one bushel of fruit free from bruises is worth more than three that are brought in casks or boxes in the common way.—[Goodsell's Genesee Farmer.]

TRAPS TO CATCH SLUGS.—Near their haunts may be placed large turnips cut in halves, and hollowed out, leaving substance for food and warmth, and having two or three notches cut in their brims, within which the slugs will enter and be destroyed.—*Another Mode.* Hold some cabbage leaves over the fire till they become quite soft, then rub them with unsalted butter, or any kind of fresh dripping, and lay them in the places infested with slugs. In a few hours the leaves will be covered with snails and slugs.—[Horticultural Register.]

SALT AS A MANURE.—I well remember, when I was a boy, about fourteen years of age, the sea broke into my father's marsh, in Lincolnshire, and it was overflowed with salt water. The next summer being dry, all our grass was burnt up, so that I was very much concerned, thinking all our grass was clear killed; indeed, so it appeared. The next summer proved wet, so that towards the latter end we had some grass again, and during the third summer we had grass enough, and in the fourth and many others, there was an abundance. I would have those who lay salt in their gravel walks, to kill the weeds, to observe if in a few years they do not produce more weeds than others that had no salt laid on them at all.—[Ibid.]

TO PREPARE VEGETABLE MOULD QUICKLY.—As early in November as the leaves of trees can be collected, let them be brought in a considerable quantity, into a close place, and dressed up there in the form of a hot bed. Let this be well saturated with the drainings from the dung-heap, with suds from the wash-house, and with urine from the stable and cow-house, where this article can be procured. Let this bed or heap be covered and lined with fresh stable dung, to make it heat. When the heat is sufficiently subsided, let the leaves be uncovered and turned over, to mix the dry and the wet well together, and if moisture be required, let them have it of the same description, repeating the process till all be reduced to fine mould. This will be ready for use in two months from the time of collecting the leaves, and to prevent any waste of the liquid recommended, a layer of maiden earth, of two feet thick, should be made the substratum, which would receive any of the valuable liquid that would otherwise run to waste. Leaves of slow decomposition should be avoided, as those of the oak, &c. which, however, are the best for retaining heat in hot-beds and pits. The leaves of fir should also be avoided, but those of the sycamore, elm, alder, maple, and all the soft kind, are best suited for the purpose. This compost should be kept dry, in an airy place, and ridged up, so that the rain cannot wash out the salts with which it abounds.—[Doyle's Practical Gardening.]

READY MODE OF REDUCING LEAVES TO MANURE.—I am very successful in reducing my leaves to manure. I collect an immense quantity during the winter, and carry them all to the yard where the cows are milked, and have their sheds. Their droppings reduce them quickly; but in order to make excellent manure of them within the season, I cause a light layer of earth to be scattered over them from time to time as they rise. In February, I turn the whole over, and I am sure to have the entire yard covered three feet deep with choice and valuable vegetable mould, fit for use at any time after June, particularly if the season be tolerably wet.—[Horticultural Register.]

SUGAR CORN, OR INDIAN ROASTING EARS.—We have received from Capt. Henry Crowell, a sample of the above Corn, which is highly esteemed by the Creek Indians, from whom the seed was originally procured. The corn grows as stout, and the ears and kernels about the size, as the common white or cream colored corn, cultivated in this state; but the kernels may be easily distinguished by their semi-transpareney. On account of the softness of the kernel this corn cannot be ground into meal. It is used principally for roasting ears. But we presume it would be superior to the common sort for horses and hogs, by being softer and sweeter; and it is said to yield more abundantly, each stalk having several ears. We hope that a fair trial may be made of it the ensuing year.

We are told that the Indians have frequently the luxury of green corn the year round. The corn is pulled when in the milk, and boiled with the shucks on, and in that condition hung up to dry. When wanted for use, the husks are stripped off, and it is boiled again, with a small piece of bacon or dried venison.

The above is a different variety from the sugar corn procured at the seed stores.

A CURIOUS METHOD OF MANAGING BEES, IN EGYPT.—In Bishop Pococke's Travels in the East is the following passage: "If I am rightly informed, they have an extraordinary custom in relation to their bees in Upper Egypt. They load a boat with hives at a time when their honey is spent; they fall down the stream all night, and take care to stop in a place by day, where the diligent animal may have an opportunity of collecting its honey and wax, and so making a voyage of six weeks or two months, they arrive at Cairo, with plenty of honey and wax, and find a good market for both."—[Horticultural Register.]

MACHINE FOR CUTTING GRAIN.—[The Union, a paper published at Lexington, Vir., gives the subjoined account of an 'important invention.' We should like to have further particulars from Mr. McCormick—the price, &c.—and, if convenient, a drawing.]

We have omitted until now to furnish our agricultural friends with an account of a machine for cutting grain, invented by one of our ingenious and respectable county-men, Mr. Cyrus H. McCormick, and which we witnessed in operation in a field of grain during the late harvest in the neighborhood of this place. A large crowd of citizens were present at the trial of it, and although the machine (it being the first) was not as perfectly made as the plan is susceptible of, yet we believe it gave general satisfaction. We have been furnished with some certificates from several of our intelligent farmers, which we have appended to the following description of the invention.

This machine is so constructed as to leave a long or a short stubble, to operate alike well on tall or short grain. It is drawn by one horse walking by the side of the grain in shafts—just behind is a wheel about 2 feet 3 inches in diameter, which runs on the ground, by which the machinery is operated—having a cog-wheel with 40 cogs screwed to it. There is a small wheel (with 9 cogs) working in that, having another on the same shaft with 28, which works another small one, turning a small crank, behind the wheel, and from this crank the knife receives a vibratory motion. It is about 4½ feet long, with an edge somewhat like that of a sickle (having teeth,) straight and projecting into the grain at right angles to the horse. Behind the knife is an apron 5 or 6 feet long, of thin plank: and this frame connects with and is made fast to the frame which supports the main wheel—having a slide, or small wheel, under it, to support it, say about 5 feet from the main wheel. Along side the apron, by the point of the knife, and extending some distance before the knife, is raised a partition of cloth for the purpose of dividing and keeping separate the cut grain from that which is left standing. Then is a reel, as it is termed, which is about 6 or 7 feet in diameter, and the same length of the knife. This is made by framing arms in each end of a shaft, say 8, the points of which are joined together by pieces, called ribs, parallel to the shafts. The reel is revolved as the machine advances, by a band from the main wheel to one on its shaft, the object of which is to draw the grain back to the knife, which will be done whether straight or tangled, upright or leaning, unless below an angle of 45 deg., and to throw it on the apron. When a sufficient quantity shall have been collected for a sheaf, the hand who attends it draws it off the apron with a rake. The grain is prevented from slipping with the edge of the knife by pieces of wire projecting before it within 1 or 2 inches of each other.

I certify that, having used one of Mr. McCormick's Reaping Machines on my farm, I can assert that the Machine performs well on level and on steep land which is smooth, and that it will cut one acre per hour.

ARCH'D. WALKER.

July 18, 1833.

I certify that Mr. Cyrus McCormick's Reaping Machine, with a horse, was employed by me in the late harvest, and though I did not work it much, I was satisfied with its work. I tried it for an hour, and calculated what it would do for a day, and found that it would cut in a day about 12 acres. I done so more than once. The present year was unfavorable for the trial, as the wheat was lodged in the field. I was so satisfied that I bought one. This preparation was necessary: the ground must be clean—free from stumps and large stones.

JAMES McDOWELL.

July 18, 1833.

I have seen Mr. Cyrus H. McCormick's Grain-cutting Machine in operation for two seasons—it cut for me this season. I think it will perform well, where the ground is clear of locks and stumps; and will be a great saving of hand labor, and can be so constructed as to cut much wider than at present, and I think it well worth the attention of the public. I think it will cut about twelve acres per day, by being well attended.

JOHN WEIR.

A WYCH ELM, in Sir Wm. Baggott's Park, in the county of Staffordshire, as Sir Henry Capell told me, employed two men five days to fell it. It lay forty yards in length, the stool was five yards two feet across, fourteen loads of wood brake in the fall, forty-eight loads in the top, eighty pair of naves were made of it, besides eight thousand six hundred and sixty feet of boards and planks. It cost £10 17s. in sawing, and the whole was conceived to weigh ninety-nine tons. It was felled in 1674.—[Horticultural Register.]

CANADA COTTON.—In the New-England Farmer, No. 17, vol. 10, page 131, it is mentioned in an article under the above head, that the lads of Dr. Stewart Chisholm, of Glengary, in Upper Canada, had spun a large quantity of this wild Cotton, and had it woven into cloth. The discovery of the capability of this article being converted into cloth is attributed to the above lads, and it is very probable that they had not known of the experiment being made before. But I find, by reference to the Domestic Encyclopædia, article Swallow Wort, and Milkweed, (other names for the plant,) that the American Editor of that work, Dr. Mease, mentions, on the authority of Dr. Guthrie, (Manchester Memoirs, vol. 5,) that "the plant is cultivated extensively in Germany, and that stuffs have been made of it which vied in lustre with the animal silk."

The botanical name of the plant is *Asclepias Syriaca*. It abounds throughout N. America, but especially in New-York, and further north, near rivers and streams; and I have often wondered that it has not been applied for the purpose of filling bed-spreads, as a substitute for the expensive article, eider-down, for which it would answer admirably; probably it might require quilting. This might be ascertained by experiment: the ingenuity of our women would doubtless find out the best way of using it.

I should suppose that the addition of some cotton to the silk of the plant would facilitate the spinning of it into thread.—[New-England Farmer.]

THE HOLLY AS A HEDGE-PLANT.—It is well known, that the holly makes a beautiful and durable hedge, but it is seldom used for that purpose, because of its slow growth. I have, however, seen it thrive with unusual rapidity, and the whole mystery appears to consist in the time of planting. Thousands of hollies are every year destroyed by transplanting them in winter: if removed at midsummer, they scarcely sustain a check.—[Horticultural Register.]

IMPROVED CORN.—Dr. Oliver Fiske, of this town, has left with us a specimen of Corn of a kind which he has raised for three years past, and which appears worthy of the attention of our farmers generally. It has now been fully ripe for near a month, and being thus early, it is not only safe from the frost, but, in consequence of filling out and ripening in the warmer part of the season, is more likely to be sound and heavy than that which ripens later. The kernel and ear are about the size of the common corn, and Dr. Fiske thinks it will yield as large a crop as any corn he ever raised.—[Worcester Spy.]

APPLE AND CABBAGE SEED.—It is said, that if the largest pip in an apple be sown, the fruit will be similar to that of the parent tree, without grafting; and that the cabbage seed gathered from the middle flower stem produces plants which will be fit for use a fortnight earlier than those from the seed of the lateral flower stems.—[Horticultural Register.]

USES OF THE HORSE-CHESNUT TREE.—Let me call your attention to a fact but little known, viz. that in Cashmere, where it is wild in the woods, the fruit of the horse-chesnut is used to feed pigs. The wood is also serviceable for turners and coopers, and sells well. These circumstances will tend much to encourage the planting of this beautiful tree. It thrives near water and on wet soils. It has always been considered useless, and it was supposed that only deer would eat the fruit. I have tried pigs, and find they will eat it.—[Horticultural Register.]

LARGE APPLES.—There are now to be seen, at Thorburn's seed store, in North Market street, twenty apples, weighing in the gross twenty one pounds one ounce—the heaviest exceeding twenty ounces. And, what is not the least part of the novelty, they actually grew upon the Albany *Barrens!*

TO PRODUCE ONIONS OF A LARGE SIZE.—When the beds are formed by the usual method, tramp them heavily, and roll them firmly. On this compact surface sow the seed, and cover it at the usual depth with a rich compost. The bulbs, instead of sinking, will spread superficially to a good size, and ripen earlier.—[Horticultural Register.]

SAUERKRAUT, OR SALTED CABBAGE.—It is only ten or fifteen years since this article was introduced on board British ships of war, as an article possessed of valuable antiscorbutic properties. Experience proving it to be valuable for the above mentioned qualities, it is still retained in their supplies. It has long been in use on board of German and Dutch national vessels, as well as merchant ships, the crews of which, even during the longest voyages, remain perfectly free from scorbutic complaints. From time immemorial it has formed a favorite standing dish to the robust inhabitants of the north of Europe, during their long and rigorous winters. It is recommended by cheapness, savor, salubrity, and simplicity of preparation. Cabbage should be taken that has sustained two or three white frosts previous to being gathered. Sound compact heads should be chosen; the green and imperfect leaves should be carefully removed, each head divided, and the stalk cut out, then sliced fine with an instrument made for the purpose: a suitable tub, barrel shaped, should be prepared. After cutting, it should be salted with the proportion of a pint of fine salt to the bushel of cabbage, well intermingled, which may then be gradually packed in the tub, pressing it continually with an appropriate wooden rammer. It should then be covered with a circular board, two inches less in diameter than the tub, and a weight of 20 or 30 lbs. placed on it. In two weeks it will undergo the acetous fermentation, when it will be fit for use. Attention should be paid to it every week, to skim the froth from the brine, to wash the board, stone, and sides of the tub. When Sauerkraut is taken out of the tub to cook, it should always be washed with fresh water, and cooked without the addition of any other vegetable. A piece of fat pork, beef, or a fat goose, enclosed with the Sauerkraut, in a close tin vessel, and stewed three hours, forms an excellent dish, and is the more valuable as it can be had at the seasons of the year, and under circumstances, that vegetables cannot be procured.—[Daily Chronicle.]

AGRICULTURAL THRIFT.—Gen. Jas. Shelby, of this county, sold, a few days since, a flock of 160 mules, raised on his plantation, for the sum of $11,840 cash in hand. Fourteen of these mules were purchased by the agent of a gentleman of Cuba, and were sold for $130 each, making an aggregate $1,820 for the 14.—[Lexington (Ky.) Intell.]

It is computed that there are in the United States about 800 whale ships, employing about 10,000 men, and which bring home every 40 months about 227,960 barrels of oil, the value of which is not far from $4,000,000. The outfit of each ship, for 30 months cruise, is from 15,000 to 20,000 dollars.

EGYPTIAN EGG-OVEN.—It is a well-known fact, that eggs may be hatched by artificial means. The Egyptians, as well as those who have tried the experiment in Europe, have succeeded, by means of artificial heat, in hatching eggs without any aid from the mother birds.

According to the best descriptions of the Egyptian *mamal*, or hatching oven, it is a brick structure about nine feet high. The middle is formed into a gallery about three feet wide and eight feet high, extending from one end of the building to the other. This gallery forms the entrance to the oven, and commands its whole extent, facilitating the various operations indispensable for keeping the eggs at the proper degree of warmth. On each side of this gallery there is a double row of rooms, every room on the ground floor having one over it of precisely the same dimensions, namely, three feet in height, four or five in breadth, and twelve or fifteen in length. These have a round hole for an entrance of about a foot and a half in diameter, wide enough for a man to creep through; and into each are put four or five thousand eggs.

When the fires have been continued for eight or twelve days, according to the weather, they are discontinued, the heat acquired by the ovens being sufficient to finish the hatching, which requires in all twenty-one days, the same time as when eggs are naturally hatched by a hen.

The number of ovens dispersed in the several districts of Egypt has been estimated at 386; and it has been computed that a million of chickens are annually hatched, in this manner, in Egypt.—[People's Mag.]

NATURAL WONDER.—On the south side of the island (Mauritius) is a point called "the Souffleur" (the Blower), from the following circumstance: A large mass of rock runs out into the sea from the main land, to which it is joined by a neck of rock not two feet broad. The constant beating of the tremendous swell which rolls in has undermined it in every direction, till it has exactly the appearance of a Gothic building, with a number of arches in the centre of the rock, which is about thirty-five or forty feet above the sea; the water has forced two passages vertically upwards, which are worn as smooth and cylindrical as if cut by a chisel. When a heavy sea rolls in, it, of course, fills in an instant the hollow caverns underneath, and finding no other egress, and being borne in with tremendous violence, it rushes up these chimneys, and flies, roaring furiously, to a height of full sixty feet. The moment the wave recedes, the vacuum beneath causes the wind to rush into the two apertures with a loud humming noise, which is heard at a considerable distance. My companion and I arrived there before high water, and having climbed across the neck of rock, we seated ourselves close to the chimneys, where I proposed making a sketch, and had just begun, when in came a thundering sea, which broke right over the rock itself, and drove us back much alarmed. Our negro guide now informed us that we must make haste to re-cross our narrow bridge, as the sea would get up as the tide rose. We lost no time, and got back dry enough; and I was obliged to make my sketches from the main land. In about three-quarters of an hour the sight was truly magnificent. I do not exaggerate in the least when I say that the waves rolled in long and unbroken, full twenty-five feet high, till, meeting the headland, they broke clear over it, sending the spray flying over to the main land; while from the centre of this mass of foam, the Souffleur shot up with a noise which we afterwards heard distinctly between two and three miles. Standing on the main cliff, more than a hundred feet above the sea, we were quite wet. All we wanted to complete the picture was a large ship going ashore.—[Journal of the Royal Geog. Soc.]

HUMAN LIFE.—Pliny has compared a river to human life. I have never read the passage in his works, but I have been a hundred times struck with the analogy, particularly amidst mountain scenery. The river, small and clear in its origin, gushes forth from rocks, falls into deep glens, and wantons and meanders through a wild and picturesque country, nourishing only the uncultivated tree or flower by its dew or spray. In this, its state of infancy and youth, it may be compared to the human mind, in which fancy and strength of imagination are predominant—it is more beautiful than useful. When the different rills or torrents join, and descend into the plain, it becomes slow and stately in its movements; it is applied to move machinery, to irrigate meadows, and to bear upon its bosom the stately barge; in this mature state it is deep, strong, and useful. As it flows on towards the sea, it loses its force and its motion, and at last, as it were, becomes lost and mingled with the mighty abyss of waters.

One might pursue the metaphor still further, and say, that in its origin, its thundering and foam, when it carries down clay from the bank and becomes impure, it resembles the youthful mind, affected by dangerous passions. And the influence of a lake in calming and clearing the turbid water, may be compared to the effect of reason in more mature life, when the tranquil, deep, cool, and unimpassioned mind is freed from its fever, its troubles, bubbles, noise, and foam. And, above all, the sources of a river, which may be considered as belonging to the atmosphere, and its termination in the ocean, may be regarded as imaging the divine origin of the human mind, and its being ultimately returned to and lost in the Infinite and Eternal Intelligence from which it originally sprung.—[Davy.]

THE LANCASTERIAN SYSTEM IN GREECE, A. D. 1669.—We found about thirty young lads sitting upon benches, and their master at the head of them teaching them to read. His method was pretty, and much beyond ours; the master causing the whole class to read at a time without confusion, every scholar being obliged to attend, and to mind what his next neighbor reads. They had each of them the same author in his hand; and, for example, if he had thirty scholars, he chose out some continued discourse, and gave them but thirty words to read; the first boy reading the first word, the second boy the second word, the third boy the third word, and so on. If they read soundly and right, he gave them thirty words more; but if any of the boys were out or imperfect, he was corrected by the next, who was always very exact in observing him, and he his neighbor, till the whole number of words were read. So that the thirty scholars, lying all of them at catch, and ready to take advantage of any defect in their neighbor, stimulated by an ambition of being thought the best scholar, every one's lesson was the lesson of all, and happy was he that could say it the best. To obviate any of the scholars in eluding that order, by preparing himself for any single words, their places were changed, and he who was at one reading in the first place was removed a greater distance in the next. Thus one lesson was enough for a whole form, how numerous soever, and which was very convenient for the master; the boys were not constrained to come to him one after another, for every one was a master to his neighbor.—[Guillatiere, quoted in Hennen's Medical Topography of the Mediterranean.]

DECISION OF CHARACTER.—You may recollect the mention, in one of our conversations, of a young man who wasted in two or three years a large patrimony, in profligate revels with a number of worthless associates calling themselves his friends, till his means were exhausted, when they of course treated him with neglect or contempt. Reduced to absolute want, he one day went out of the house with an intention to put an end to his life; but wandering awhile almost unconsciously, he came to the brow of an eminence which overlooked what were lately his estates. Here he sat down, and remained fixed in thought a number of hours, at the end of which he sprang from the ground with a vehement exulting emotion. He had formed his resolution, which was that all these estates should be his again; he had formed his plan, too, which he instantly began to execute. He walked hastily forward, determined to seize the very first opportunity, of however humble a kind, to gain any money, though it were ever so despicable a trifle, and resolved absolutely not to spend, if he could help it, a farthing of whatever he might obtain. The first thing that drew his attention was a heap of coals shot out of carts on the pavement before a house. He offered himself to shovel or wheel them into the place where they were to be laid, and was employed. He received a few pence for the labor; and then, in pursuance of the saving part of his plan, requested some small gratuity of meat and drink, which was given him. He then looked out for the next thing that might chance to offer; and went with indefatigable industry through a succession of servile employments, of longer or shorter duration, still scrupulously avoiding, as far as possible, the expense of a penny. He promptly seized *every* opportunity which could advance his design, without regarding the meanness of occupation or appearance. By this method he had gained, after a considerable time, money enough to purchase, in order to sell again, a few cattle, of which he had taken pains to understand the value. He speedily, but cautiously, turned his first

gains into second advantages; retained without a single deviation his extreme parsimony; and thus advanced by degrees into larger transactions and incipient wealth. I did not hear, or have forgotton, the continued course of his life: but the final result was, that he more than recovered his lost possessions, and died an inveterate miser, worth £60,000. I have always recollected this as a signal instance, though in an unfortunate and ignoble direction, of decisive character, and of the extraordinary *effect*, which, according to general laws, belongs to the strongest form of such a character.—[Foster's Essays.]

M. Guesney's New System of Philosophy.—Sir John Byerley has recently introduced into England a globe of a new and important character, invented by M. Guesney, an advocate of Coutances in Normandy, and described by him in a work entitled *Mouvement Heliaque*, Paris, 1825. Many of the more important phenomena of geology and physical geography have given birth to the wildest theories. M. G. being led to regard them as produced by the precession of the equinoxes, attempted their solution on scientific bases. Unfortunately M. G. is a sworn enemy of the Newtonian system, and while his whole theory is grounded on the precession of the equinoxes, he denies the cause of that precession, and affirms that the earth is perfectly spherical! His work abounds with errors quite as easy to refute, but he has the great and exclusive merit of having first had the idea of constructing a terrestrial globe in harmony with the celestial, by tracing the system of the ecliptic upon it as upon the celestial globe.

We may here observe, that the whole of the appearances in the heavens are to be referred to the two motions of the earth. The polar star is not polar to any planet but our own; and the poles of the ecliptic in the folds of Draco and in the Dorado are only so in reference to the earth. The axes of the world, as they are called, or those of the ecliptic and the equator, are two lines crossing each other *in the centre of the earth*, at an angle of 23° 28′, and extending to the heavens; but, we repeat it, they do not pass through the centres of any other planets; and are therefore to be referred to the earth alone.

The points where these lines pass through the surface of the earth are the poles on which its motions are performed, the movement of rotation, or diurnal motion, on the poles of the equator, and the movement of translation, or annual motion, on the poles of the ecliptic. M. Guesney's great difficulty was to fix the seat of the poles of the ecliptic on the terrestrial globe. In this he received no aid from astronomers, who declare the ecliptic to be a circle in the heavens, and to have no reference whatever to the earth, forgetting that, as the plane of the ecliptic passes through the centre of the earth, *it must cut its surface somewhere:* to determine those points, then, and consequently the poles of the terrestrial ecliptic, was the object of M. Guesney. He found that the magnetic needle and its dip were both directed to one point on the globe near the polar circle at the back of Iceland, precisely on the first meridian adopted by order of Louis XIII., passing through the island of Ferro. He found that, by supposing the seat of the pole of the ecliptic there, it gave a satisfactory solution of many hitherto inexplicable phenomena; he therefore fixed it there by approximation. Sir J. B. appears to be the only scientific person who has taken the trouble to sift the wheat from the chaff, and on this basis to erect a theory embracing the principal phenomena. Not, however, satisfied with approximation, where mathematical accuracy was evidently attainable, he endeavored to ascertain precisely the poles of the terrestrial ecliptic, when, fortunately, he found that Laplace, pursuing another object, had already solved the problem.

To avoid the confusion of every maritime nation using a different first meridian, Laplace wished them to take that "of which the midnight corresponds with the instant when the great axis of the ecliptic is perpendicular to the right line of intersection of the equator and ecliptic, which meridian is 166° 46′ 12″ east of Paris," or 169° 6′ 27″ east of Greenwich Observatory.

On the authority, therefore, of the greatest astronomer of any age, Sir J. B. has had a terrestrial globe prepared by Mr. Newton, with the system of the ecliptic described on the poles as fixed by Laplace; the north pole of the ecliptic being in the polar circle, and the winter solstitial colure, or first meridian, 10° 53′ 35″ west of Greenwich. A circle drawn from this pole as a centre, on a radius of 23° 28′, will pass through the pole of the earth, and trace its line of motion round the pole of the ecliptic, in 25,920 years.

This revolution of the pole of the equator round that of the ecliptic is admitted by all astronomers to take place in the *heavens*, but not in the earth. They admit, too, that the axis of the ecliptic is fixed and immovable, the ecliptic being so; but they have not yet shown how a right line intersecting another fixed right line at a given angle shall move round the latter at its extremity, and not at a given distance from the point of intersection! Assuming, then, that the pole of the equator revolves round the pole of the *terrestrial ecliptic*, it remains to show a few of the terrestrial effects of such motion.

By inspection of the globe, we find that the pole of the equator is now at nearly its greatest distance from western Europe; that it is advancing at the rate of about 394 yards annually on North America, and will pass through Lancaster Straits, Hudson Straits, over Resolution Isle, enter Europe at Cape Finisterre, pass over Bilbao and the northern frontier of Spain, through France over Toulouse, through Lombardy over Milan, through Germany over Vienna, and pass into Russia over Moscow, &c. &c. It is found that the solstitial colures are almost entirely in the ocean, cutting only a small portion of Western Africa, and a portion of Kamschatka, and proceeding without interruption until they meet the lower part of New-Zealand.

On inspecting the globe farther, we find that Kamschatka was at a given period within the tropics, which accounts for tropical fossils being found in the polar regions; and that the Oural Mountains were formerly in the latitude of Mexico, which explains why the precious metals are found in such high latitudes, and why the same precious stones are found in Mexico and the Oural Mountains. We find also that the direction of the straits in the higher latitudes run from west to east, or in the direction of the waters of the pole. The debris of mountains are found in the same direction in England, France, Italy, Scandinavia, &c. The plains of Lombardy are covered with Alpine debris, and in Scandinavia, masses of 50,000 tons have been transported, (Dr. Buckland fancies on the back of an iceberg,) by the immense force of the Polar Ocean.

The radius of the earth at the equator is about 65,000 feet greater than the polar radius, owing to the centrifugal force (which is as the radii of the parallels of latitude). And, as the pole moves through 46° 56′ of latitude in 12,960 years, in that lapse of time one part of the equator will be carried 46° 56′ into the southern hemisphere. At that period all western Europe will be buried under the waters of the pole (forming the period of a deluge), as it was at three distinct periods, at intervals of nearly 26,000 years; which ascertains the existence of the globe in its present state (which was probable its primitive) for 70,000 years. This change of the plane of the equator is probably the cause of all the great phenomena; it changes the latitude from polar to tropical regions, and thus renders a change in the action of the centrifugal force; and from whatever part the pole is receding, the centrifugal force is increasing, which produces an alteration of surface; in whatever place it is advancing there is a consequent depression. There is thus a daily tendency to elevation in some parts, and to depression in others; and to this cause Sir J. B. attributes earthquakes and volcanic action. According to this theory, as the elevation and depression must be greatest in the direction of the motion of the pole, so ought the degree of volcanic action to be. On inspecting the globe, we find this to be the case, and that volcanic action is greatest on the meridians of S. America and the Philippine Isles. Where no elements of combustion exist we have eruptions of mud, &c.

The difference between the earth's radius at the equator and at 45° is 5,340 French toises, or about 33,000 English feet. Now, the equator changing its position nearly 47°, it follows that in the solstitial colure the present position of the equator will be depressed at least 33,000 feet. This will readily account for marine fossils being found in Chimborazo, 15,500 feet above the surface of the ocean.

The above is a brief outline of the system to which Sir John Byerley intends shortly to call the attention of the public. He courts inquiry; for, if the theory be well founded, it will entirely re-model the science of physical geography.—[British Cyclopædia.]

Skin and Stomach.—Let these two important organs be attended to in a proper manner, and all the diseases of summer, cholera inclusive, will be avoided. The kind of attention to the skin consists in daily friction with a coarse towel or flesh brush—the tepid or warm bath twice, or, at least, once a week; or, in lieu of this, daily sponging the surface with salt and water, with the chill taken off it, and then rubbing with a dry coarse towel. The stomach will have justice done it by an avoidance of all alcoholic drinks; the moderate use of tea and coffee, if such be habitually taken; a due proportion of well boiled vegetables, with meat, roasted or boiled; and on occasions, in sanguinary temperaments in a feverish habit of body, a moderate share of ripe cooked fruits, to the exclusion, however, of cherries and plums. In all cases where disease is present in a place, no kind of fruit, nor any new or unaccustomed article of diet whatever, should be taken *in the evening*.—[Journal of Health]

tion of the thrust in the direction of the length of the chapel.

One of the finest features of Gothic architecture, and which, in many instances, still forms the most striking ornaments of our cities, is the tall, tapering spiral, which was first built of wood by the Normans, and afterwards in stone, early in the 13th century. In the course of the 14th and 15th centuries, they were greatly increased in number.

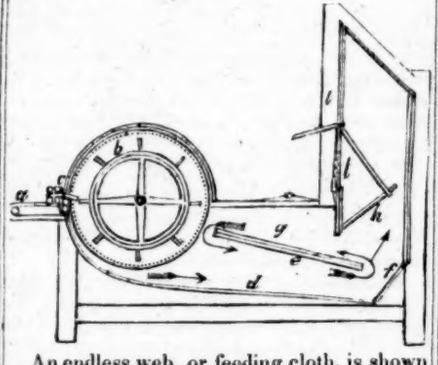
PATENT RADIATOR, OR GLOBE STOVE.—A stove, with the above name, has recently been invented by Mr. WALTER HUNT, of this city, one of which was in operation a short time since at the Exchange. The main part of the stove where the coal is deposited is of a globular form, and from its peculiar construction, produces a greater quantity of heat from a given quantity of fuel than any other stove now in use. After repeated trials, the inventor informs us that it requires a very small quantity of fuel in comparison with many others now in use, and from what we witnessed we are disposed to entertain the same opinion. This article is well calculated for halls, churches, counting rooms, &c.; and, when once proved, will no doubt be generally sought after.

MECHANICAL INVENTION.—The writer of this, while on a visit to the penitentiary, near the city of Trenton, New-Jersey, a few days ago, witnessed the operation of a machine for punching holes in bars of iron, which worked with extraordinary effect. It is a simple machine, easily constructed, at very little expense, and capable of being moved about and used in any position. It was employed in punching the holes for the perpendicular bars which are inserted through the flat cross bars for the iron grating to be used in the windows and doors of the new State Penitentiary. We noticed that in the space of one minute and a quarter, seven holes were perforated through a bar half an inch thick, each hole being one and a quarter inches in diameter—the bar being perfectly cold at the time. This effect is produced by the application of a lever power, and two or three rapid blows with a sledge hammer. This is certainly an important discovery in this branch of mechanics, and is the invention of some of the gentlemen engaged in the erection of the new Penitentiary.—[Emporium.]

EDUCATION.—The following beautiful extract is from an address delivered before the Zelosophic Society of the University of Pennsylvania, by Hon. Joseph Hopkins, LL. D., page 26:

"The American parent does an injustice to his child which he can never repair, for which no inheritance can compensate, who refuses to give him a full education because he is not intended for a learned profession. Whatever he may intend, he cannot know to what his son will come; and if there should be no change in this respect, will a liberal education be lost upon him because he is not a lawyer, a doctor, a divine? Nothing can be more untrue or pernicious than this opinion. It is impossible to imagine a citizen of this commonwealth to be in any situation in which the discipline and acquirements of a *liberal* education, however various and extended, will not have their value. They will give him consideration and usefulness, which will be seen and felt in his daily intercourse of business or pleasure; they will give him weight and worth as a member of society, and be a never-failing source of honorable, virtuous, and lasting enjoyment, under all circumstances, and in every station of life. They will preserve him from the delusion of dangerous errors, and the seductions of degrading and destructive vices. The gambling table will not be resorted to to hasten the slow and listless step of time, when the library offers a surer and more attractive resource. The bottle will not be applied to to stir the languid spirit to action and delight, when the magic of the poet is at hand to rouse the imagination and pour its fascinating wonders on the soul. Such gifts, such acquirements, will make their possession a true friend, a more cherished companion, a more interesting, beloved, and loving husband, a more valuable and respected parent."

METHOD OF CLEARING FUR FOR MAKING HATS.—The preparation of hats is one of the principal uses to which fur is put in this country; we therefore select the present article for describing the mode of clearing the fur for that purpose. An account of the complete formation of a hat will be given in a future number. The patent improvements to which we are going to call the reader's attention are exhibited in the diagram beneath, and are intended to separate the finer portions of the fur from those that are less costly.



An endless web, or feeding cloth, is shown at *a*. It is extended on two rollers, upon which web the materials to be cleared and separated are placed, and by which they are carried forward into the machine. *b* is a hollow cylinder, with a flanch at each extremity. From the rims of these flanches a number of cords of catgut are extended and made tight. A peg or pin is so placed, the cords are put in vibration as they pass round, and thus take the material from the feeding cloth. To insure a requisite current of air for carrying the fur onward, vanes are placed in the cylinder *b*. The precise amount of current is determined by the regulator *e*, and the board *f*. The portions that are not sufficiently cleared are returned in the direction of the arrow towards *g*, while that which is completed goes out at *h*, and from thence into a large upper chamber.—[British Cyclopædia.]

PRESSED BEEF.—Take a piece of the flank, brisket, or other part, freed entirely from bone; pickle it for five or six days, in a brine made of common salt and sugar, in the proportion of a quarter of a pound of sugar to a pint of salt; then boil it gently till very tender; wrap it in a strong cloth, and press it under a heavy weight, or in a cheese press, till perfectly cold. It is fine when eaten cold, or for sandwiches.

Wild Horses—The Game and Sports of the West. [From Skinner's American Turf Register for October.]

FORT GIBSON, August 1, 1833.

MR. EDITOR—Although the "blind goddess," in her capricious dispensations, has not deemed me worthy a high place among that spirited and jovial fraternity yclept, "sportsmen of the turf," an inherent fondness for the horse, and the interest awakened by a recital of his gallant achievements, have made me a regular reader of your excellent work.

I have observed the polite reception given by you to all sporting notices and papers, contributed by different gentlemen, on the subject of hunting and the various animals with which they have come in contact.

Having recently visited the Grand Prairie, southwest of us, where the lovers of genuine field sports will find an inexhaustible source of amusement, among game of almost every variety, and of the noblest species, I have employed a leisure hour in embodying a brief relation of the tour, which is submitted to your discretion, as the proper depository of sporting intelligence.

A detachment of infantry and rangers, amounting to about three hundred and eighty men, left this post on the 6th May last, charged with the duty of scouring the Indian country to the southwest, with the double object of preserving the friendly relations existing between the tribes in alliance with the United States, and of preventing the hostile incursions of their enemies, the Pawnees.

On the 7th of May we left the bank of the Arkansas, and advanced on our line of march, in a south-west direction, across the northern branches of the Canadian river.

The season of the year was most propitious to the purposes of hunting, as well as of military operations. Nature had fairly unfolded her vernal beauties, and we were traversing a lovely region of undulating prairie, mantled with green, and diversified by "hill and dale, copse, grove and mound:" its deep solitudes occasionally enlivened by herds of deer, whose timid glance and airy bound, as the stirring notes of the bugle fell upon their ear, bespoke a fear and distrust of their civilized visitors.

It was not until we had advanced some ninety or one hundred miles from Fort Gibson that we fairly reached the game country. As we were now on a neutral ground, between the Pawnees and the tribes friendly to the United States, and as the danger of hunting operates, in some measure, as a check on all parties, in resorting there, it results that the game (particularly the deer) is more plentiful in that section than it otherwise would be. The buffalo was here first encountered—a striking proof of the rapidity with which this animal recedes before the advances of civilization. Ten years since they abounded in the vicinity of Fort Gibson; and in the summer of 1822, the writer of this, with Maj. Mason, of the army, and a party of keen sportsmen, killed a considerable number of them near Fort Smith, about forty miles east of us. They have receded, it would seem, one hundred miles westward in the last ten years; and it may be safely assumed, that thirty or forty years hence, they will not be found nearer to us than the spurs of the Rocky Mountains, unless the numerous bands of hunters of the Choctaw, Chickasaw, Cherokee and Creek tribes, established in this country, should relinquish the chase for the arts of civilized life. On the 26th May we reached the main Canadian river, near the point where it enters the timber bordering the eastern verge of the Grand Prairie, in its flow from the west.

The Grand Prairie extends to the Rocky Mountains, and presents to the eye a boundless extent of rolling champaign country, occasionally intersected by small streams, thinly bordered by dwarfish timber. A formidable herd of about one hundred buffaloes was here discovered, and as the command needed fresh meat, a halt was ordered, and forty horsemen detached to attack them. They gaily moved off

in a gallop, armed with rifles. As they neared the herd they quickened their pace to half speed, when they were discovered by the graceless buffaloes, who started off as fast as they could scamper, with their peculiar hobbling bouncing gait. The hunters now pressed them closely, and penetrated the moving mass at full speed; when each man selected his victim. The sharp quick report of the rifle was now heard in rapid succession; while the rush of the horses and buffaloes, the shouts of the party on the heights, and the flashes and smoke of the guns, presented altogether one of the most animated spectacles I had ever witnessed.

The whole chase was visible for a long distance to the command, halted on the eminence; and so great was the interest it excited, that numbers were unable to resist it, and dashed off at full speed, to join in the work of destruction. The pursuit terminated in the death of a large number of the buffaloes, whose huge unwieldy carcasses lay strewed over the plain, like heroes on the battle field.

The buffalo is, when wounded and excited, a very dangerous animal; and there are many instances related of hunters, who, relying too far on their seeming stupidity, and unwieldiness, have fallen victims to their ferocity. On one occasion during our trip, two rangers, in the impetuosity of pursuit, drove a buffalo into a narrow pass, where, finding himself closely pressed, he made battle, goring one of the horses in the thigh, and overturning him and his rider. The horse of the other ranger stumbled during the conflict, and threw his rider on the back of the buffalo, which, becoming alarmed at this new mode of attack, now set off at full speed, carrying the ranger with him about twenty yards, until the latter, finding the gait not very easy, and likely to continue some time, rolled off the buffalo into the dust—each parting mutually willing to dissolve the connection.

Progressing south-west from the Canadian river, we reached the head waters of the Blue Water river—a beautiful limestone region of elevated prairie, abounding in game of all kinds. Buffaloes were astonishingly numerous here; and I shall not fear contradiction in saying that I saw, in one view, as many as two thousand head. The country lying between the head of the Blue Water and False Onachita rivers is particularly noted for the abundance and excellence of the wild horses which roam in its fertile prairies.

In one drove I estimated as many as one hundred and twenty head, most of them large and well formed. What struck me as peculiarly remarkable was the predominance of the gray color; by which I mean to say, there were more, as I thought, of that color than of any other single color. The same observation has been made by oriental travellers, of the far famed stock of Arabia. Several horses were caught by the rangers, but they were not, of course, of the best class, which is seldom if ever overtaken, it being a natural impossibility that jaded horses, on a journey, can carry one hundred and sixty or one hundred and eighty pounds weight, and outstrip a naked and untired animal of the same species of itself.

At our encampment on the Canadian, an incident occurred which very fairly tested the enduring qualities of the wild horse, and will enable us to form a pretty correct estimate of his general powers. There was a fine looking animal discovered near the camp by a party of rangers, and several of them gave pursuit. They run him alternately a distance of about two miles, when they relinquished the pursuit. A third horseman then gave chase on a fresh horse, noted for speed and bottom in a company of one hundred men. The issue proved the vast superiority of the prairie horse, which at first ran before his pursuer at his ease; but being at length pushed for the distance of a quarter of a mile, evinced such prodigious speed and wind, that, in the words of the ranger, he "just stood still and looked at him."

The wild horses and mares taken by the rangers, though small, were remarkable for deep, hard, black hoofs, flat sinewy limbs, full fine eyes, and large nostrils—four of the cardinal attributes of the courser.

Of all the varieties of sporting in which I have participated, I have certainly found none so animating as the chase of the wild horse. There are two modes of taking them: one by throwing a running noose around the neck, from a coil held in the hand, and the other by fastening one end of the cord to the pummel of the saddle, and the other to a stick about eight feet long, in such a manner that the noose is always open and ready to put over the horse's head. The first mode requires great practice and address. It is employed by the Spaniards of Mexico and South America, who can, it is said, catch a horse by any foot which may be named.

On the head of Blue Water a party of four of us determined to take a run after wild horses. —Having equipped ourselves with a noose and stick, tightened our girths, and tied up our heads, we rode forth into the prairie, and soon discovered a large herd of about one hundred head, quietly grazing, and unaware of our approach. As soon as we approached near enough to be seen by them, and were gradually recognized, the whole body began to nicker, and was soon in commotion, stamping the ground with their fore feet, while a few of the bolder spirits moved up towards us, slowly and doubtingly, eager to ascertain our character. Each rider now stooped on his horse, laying his head close to his horse's neck; and in this manner we silently advanced, watching closely the movements of the herd, and making each a selection of such an animal as pleased his fancy. This part of the sport was very fine; and in the present instance so many elegant forms of both sexes, and all colors and sizes, presented themselves, that it required not a little promptitude to form a decision. We had not long to deliberate, for by the time we were within one hundred yards, the increased nickering and confusion showed they had winded us, and the whole herd suddenly wheeled round and dashed off over the plain, closely pressed by their eager pursuers. We ran them about two miles, but the rocky nature of the country, and the number of deep ravines crossing our track in every direction, prevented our coming up with such as were desirable. Could we have had a clear run the whole distance, we should doubtless have secured some fine animals, as their numbers prevented their running to advantage —causing them to crowd and impede the progress of each other, by which the disparity as to weight, previously referred to, would have been neutralized. On our return towards the main body of the troops, we saw a large stallion, whose fore leg had been broken in the chase, yet, in spite of this he managed to hobble off on the remaining three very cleverly.

Nothing in natural scenery can surpass the beauty of the prairie when we visited it; and it may be imagined with what delight we stood on a mound, on one occasion, and took into one view the wild horse, the buffalo, the elk, the deer, and the antelope, in their native strength and beauty, roving free and untrammelled as the air they inhaled. Of each of these different species, with the exception of the elk, a number were killed and taken by the party; in addition to bears, wild turkeys, one wild hare, and numbers of prairie dogs.

From this point we made a short detour south-west, and thence turned north-east, on our return tour, as our provisions of every kind were nearly exhausted; and we were a short time afterwards compelled to subsist on wild meats,—part of the time without salt,—for the period of thirty-five days.

With what a prurient fancy did we conjure up in our minds the delicate viands, rich sauces, and ruby wines, of your northern Barnums and Niblos. In our reveries by day, and dreams by night, we invoked the spirit of the immortal Ude, to gift us with the art of transmuting the odious buffalo jerk into something palatable and digestible.

Long privation had, by the time we reached the point of departure, sensibly affected our rotundity. Our clothes hung in graceless folds on our gaunt and famished limbs, and we were nearly circumstanced like Falstaff's troop—almost without a shirt among us: the "cankers of a calm world and a long peace."

A Reader.

Bull Calf.—We have been shown a bull calf, raised and owned by Mr. Ebenezer Rogers, (Albion, Orleans co.) which, for size, beauty, and precocity of growth, we think, must surpass any animal of the kind, of a similar age, ever raised in this state.

The calf is but *seven* months old, and weighs 735 pounds—girts 5 feet 2 inches, and measures 6 feet from between the horns to the tip of the rump. He was sired by a bull half Durham and half Devonshire. His dam is half Durham and half American breed—is handsomely built, and of a dark chesnut color.—[Orleans American.]

STATISTICS OF TENNESSEE.

Population.

Whites	535,744
Slaves	141,603
Free colored persons,	4,555
Total,	681,902

Square Miles.

According to the most accurate estimate, there are about 42,000 square miles—equal to 26,880,000 acres.

Exports.

The annual exports can only be estimated by reference to particular sections of the country, and their average there.

Cotton 120,000 bales	$4,000,000
Corn and live stock	1,000,000
Tobacco 4,000 hogsheads,	190,000
Iron and castings,	800,000
Other articles not enumerated,	200,000
	$6,120,000

Public Debt.

The state is entirely free from public debt, other than that created for stock in the Union Bank—$500,000.

Annual Expenditures.

The annual expenses of the Government amount to $71,243.

Revenue.

The amount and sources of the state revenue are as follows to wit:

Tax on Land	$23,190
" " Town lots	2,096
" " White polls	8,880
" " Black polls	12,384
" " Stud horses	3,372
" " Pleasure carriages	1,091
" " Law proceedings	8,769
" " Conveyances	1,008
" " Taverns	1,110
" " Merchants	31,563
Total	$93,383

Public Lands.

The estimated value of the public lands to which the Indian title is not extinguished is $500,000.

The Yankees outdone.—A man in this county, famous for his money digging propensities, has lately given up his vain pursuit after enchanted treasures, and turned his attention to the more lucrative employment of manufacturing *Indian Antiquities*, such as stone axes, chisels, tomahawks, &c. which have been considered articles of great curiosity in this section of country. He has a grindstone propelled by horse power, and it is said is driving a fair business in that line, having invented several improvements upon the manner of attaching the handles, &c. formerly observed by the unknown aborigines.—[Sacket's Harbor Courier.]

A Good Haul.—A gentleman who was on a fishing expedition to Macomb's Dam, on Saturday morning, was very successful in *capturing* a striped bass weighing *twenty-four pounds!* The bass was caught with an ordinary hook, and a common grass reel line. He *played* the fish for ten minutes, and much satisfaction was evinced by the spectators, all of whom were amateurs of piscatory amusements.—[Gaz.]

AMERICAN SILK.—The Philadelphia Herald speaks of Mr. Upton, of that city, as having been, for 18 years, engaged in silk manufacture. There is a gentleman in this vicinity, Mr. Cobb, of Dedham, who, for a shorter period, has, perhaps, been working as effectively as any other person in the way of experiment. He began the cultivation of the mulberry tree in 1826, and since that time, notwithstanding the nature of the soil, which is not the most favorable, has extended his operations so much as to be now in the habit of bringing to the Boston market, American silk manufactured to the amount of about $100 a week, the year round. Recently he has introduced the great improvement of raising his trees from *slips*, by which he gains two years in the growth. Those planted by him the last spring, we understand, have grown over four feet already The mulberry, in this particular, excels all other trees.—[Boston Mercantile Journal.]

SAGACITY OF BEES.—The instinctive sagacity of the Honey Bee every farmer has had occasion to notice. A curious instance of contrivance of means and success of ultimate ends, between two swarms, was seen in this town last fall. A farmer, while crossing an open lot in the centre of the town, noticed a continued line of bees passing through the air, from one farm-house to another. He followed the advancing line and came to its termination, where he found a hive which had been assailed by two foreign swarms, the one he had followed, and another diverging off in nearly an opposite direction. By some instinctive understanding between the two swarms, they had united their strength and simultaneously attacked the hive; the struggle was then over, and the dead and dying bees belonging to it lay scattered around the hive. The honey had been taken out by the conquerors, who were then carrying it to their own hives, something like fifty pounds having been removed in less than twenty-four hours. It was plain to discover, upon inspection, that a coalition had been formed between the two swarms, to attack and destroy the other, and afterwards to appropriate the honey to their own use. All this was done, but how the understanding was effected, or the stipulations drawn up, we leave for the naturalist and curious to decipher.—[Northampton Courier.]

HOGS SUCK COWS.—An agricultural friend has related to us the following. He had observed for some weeks, that two of his cows gave but very small quantities of milk in the mornings; at night they gave the usual quantity, but in the morning, it was not unfrequent for them to withhold it altogether. He could not account for it, but was satisfied they must have been milked, yet with all his precaution he could not discover the offender. Yet the evil continued until within a few days since, when it was discovered that a couple of good sized hogs were stationed, one on each side of one of the cows, "playing the part of the calf" with a good share of self-complacency. The cows and hogs had been kept at night in the barn yard together; and it appears that the grunters had so far ingratiated themselves into the good graces of the cows, as thus to be indulged with the first milking.—[Auburn Journal, N. Y.]

A GREAT CAVERN DISCOVERED IN IRELAND.—A correspondent of the Tipperary Free Press gives an account of a Magnificent Cave, lately discovered near the town of Caher by some workmen employed in quarrying stones. The first indication of the subterranean edifice was an opening in the rock, about 20 feet from the surface, capable of admitting the body of one person. Prompted by curiosity, one of the men entered the opening, and proceeded along a sloping declivity, which terminated, at the distance of 40 or 50 feet from the entrance, in an abrupt descent of about 20 feet. Unable to advance further he returned, and having procured a ladder, he, accompanied by two or three of the workmen, proceeded to explore the cavern. Having descended the ladder they proceeded along a passage about 300 yards in length, 40 feet in breadth, and generally between 30 and 40 feet in height, at the termination of which a superb cavern, nearly one mile in circumference, presented itself to their view. This grand cavern seemed to be supported by about 150 crystal columns, varying in height from 30 to 40 feet, and in diameter from 1 to 8 feet. In the middle of this spacious cavern is placed a crystalized petrifaction exactly resembling a table, about seven feet in length and two in breadth, surmounted with crystal candelabras of the most curious construction. The subject would be endless were I to enumerate the variety of surprizing creations which nature has displayed in this subterranean palace. At the distance of 700 or 800 yards, and immediately opposite the entrance, lies another passage, which led them into what they called the lower cave, which is about three-quarters of a mile in circumference, supported, like the former cave, by lofty pillars, and decorated with the most fanciful productions. Having proceeded through this cave they discovered an aperture, which having ascended by a flight of eight steps, a sight presented itself to their view capable of impressing the strongest emotions of surprize and astonishment on the mind of the spectator. It would be useless for me to attempt a description of this astonishing hall, as nothing less than the descriptive powers of a Sir Walter Scott could render it even moderate justice; suffice it to say, that it is about three miles in circumference, supported, like the other caves, with innumerable pillars, and adorned with almost perfect imitations of all that art and nature presents to our view.—However, I cannot forbear remarking that in the centre of this magnificent hall, and depending from its roof, appears a petrifaction resembling the body of a horse, through which, at the distance of fifteen feet from the floor, issues a stream of pure water, which, after forming several evolutions on its crystalized bed, disappears, with hollow murmurings, at the furthest extremity of the hall. Through an opening to the right, in the last-mentioned hall they descended, by a flight of ten or twelve steps, to a cavern called the long cave, which is about one mile and a half in circumference, supported in like manner by superb columns, and adorned with many of the same imitations of nature and art. Amongst the imitations of art is a hollow crystalized petrifaction resembling a drum, which, when struck upon, produces a sound, the reverberation of which will continue for several minutes. Having proceeded thro' the last mentioned cave, they came to a fissure in its right side, which led them into what they called the cellar cave. This cave, unlike the rest, is not supported by pillars, nor adorned with those productions of sportive nature for which the others are so highly appreciated; but the spectator is amply compensated for the absence of those ornaments by the view of a deep river, which urges its subterranean course through the middle of the cave.

ACCOUNT OF COMMON SALT.—It does not appear that the mineral kingdom contains a single species capable of being employed as food: but there is one mineral species which indirectly contributes to the nourishment of many other animals as well as man, and that is common salt, the flavor of which, to a certain extent, is not only grateful to the palate, but, practically speaking, mankind could not exist, or at least never have existed, without the constant use of it. Thus, though employed in very small quantities at a time by any individual, and almost exclusively for the purpose either of preserving or of rendering his food more palatable, this substance may fairly be classed among the principal necessaries of life; and correspondingly with this statement, we find that nature has supplied it in abundance, indeed in profusion often, in various parts of the globe: for, to say nothing of those apparently inexhaustible masses which occur among the solid strata of the earth, and which have been constantly quarried through successive ages from the earliest records of history, the ocean itself is a never-failing source of this valuable substance. In other instances salt springs afford the means of a ready supply; and throughout a considerable part of the sandy districts of Africa and Asia the soil itself abounds with it. The abundant supply of common salt coincides with its extensive utility. It is every where indispensable to the comforts of man; and it is every where found, or easily obtained by him. And, though not to the same extent, the same observation holds with reference to many other natural saline compounds. Thus carbonate of potash, and natron or carbonate of soda, alum, borax, sal ammoniac, and sulphate of iron, or green vitriol, which are most extensively useful salts in many processes of the arts, are either found abundantly in various parts of the world, or may be obtained by very easy means: while a thousand other saline compounds, which are rarely of any practical importance, are scarcely known to exist in a native state.—[Kidd's Bridgewater Treatise.]

TACTUAL SENSIBILITY OF THE HEART.—A noble youth of the family of Montgomery, from a fall and subsequent abscess on the side of the chest, had the interior marvellously exposed, so that after his cure, on his return from his travels, the heart and lungs were still visible and could be handled; which, when it was communicated to Charles I., he expressed a desire that Harvey should be permitted to see the youth and examine his heart. "When," says Harvey, "I had paid my respects to this young nobleman, and conveyed to him the king's request, he made no concealment, but exposed the left side of his breast, when I saw a cavity into which I could introduce my fingers and thumb; astonished with the novelty, again and again I explored the wound, and first marvelling at the extraordinary nature of the cure, I set about the examination of the heart. Taking it in one hand, and placing the finger of the other on the pulse of the wrist, I satisfied myself that it was indeed the heart which I grasped. I then brought him before the king, that he might behold and touch so extraordinary a thing, and that he might perceive, as I did, that unless when he touched the outer skin, or when he saw our fingers in the cavity, this young nobleman knew not that we touched the heart.—[Bell's Bridgewater Treatise.]

SINGULAR.—In Mr. Flint's Indian Wars of the West, he relates the following singular circumstances—which it will puzzle the gownsmen satisfactorily to explain.—[Lowell Jour.]

"On the side of a mountain in Tennessee are the marks of the footsteps of men and horses in the limestone, in great numbers, and as though they were the tracks of an army. Some of the tracks show as if the army had slipped in miry clay. All have the appearance of being an actual impression in soft clay, which afterwards hardened to stone, retaining a perfect impression. Characters of great freshness of coloring, are marked upon many of the high bluffs, that impend the western rivers. Inscriptions of this sort are found in Missouri, on the Illinois, and in various other places. A remarkable track of a human foot was found in a solid block of limestone, on the bank of the Mississippi, at St. Louis. The most ancient traditions of the West do not touch the origin of these mounds or characters."

TO REVIVE GILT FRAMES.—Beat up three ounces of whites of eggs, with one ounce of chloride of potash or soda, and rub over the frame with a soft brush in this mixture. The gilding will immediately become bright and fresh.

THE SHEPHERD'S RESOLUTION.

[This fine old song was written by George Wither, a satirical writer of the times of James and Charles the First. It is extracted from one of his long pastoral poems, entitled "The Mistresse of Philarete," published in 1622.]

Shall I, wasting in despair,
Die, because a woman's fair?
Or make pale my cheeks with care,
'Cause another's rosy are?
Be she fairer than the day,
Or the flowery meads in May,
If she be not so to me,
What care I how fair she be?

Shall my foolish heart be pined
'Cause I see a woman kind?
Or a well disposed nature
Joined with a lovely feature?
Be she meeker, kinder, than
The turtle-dove or pelican,
If she be not so to me,
What care I how kind she be?

Shall a woman's virtues move
Me to perish for her love?
Or *her* well deservings known,
Make me quite forget *mine own*?
Be she with that goodness blest
Which may merit name of *best*,
If she be not such to me,
What care I how good she be?

'Cause her fortune seems too high,
Shall I play the fool, and die?
Those that bear a noble mind,
Where they want of riches find,
Think, what with them, they would do,
That without them, dare to woo:
And unless that mind I see,
What care I how great she be?

Great or good, or kind or fair,
I will ne'er the more despair.—
If she love me, this believe:
I will die ere she shall grieve.
If she slight me when I woo,
I can scorn and let her go.
If she be not fit for me,
What care I for whom she be?